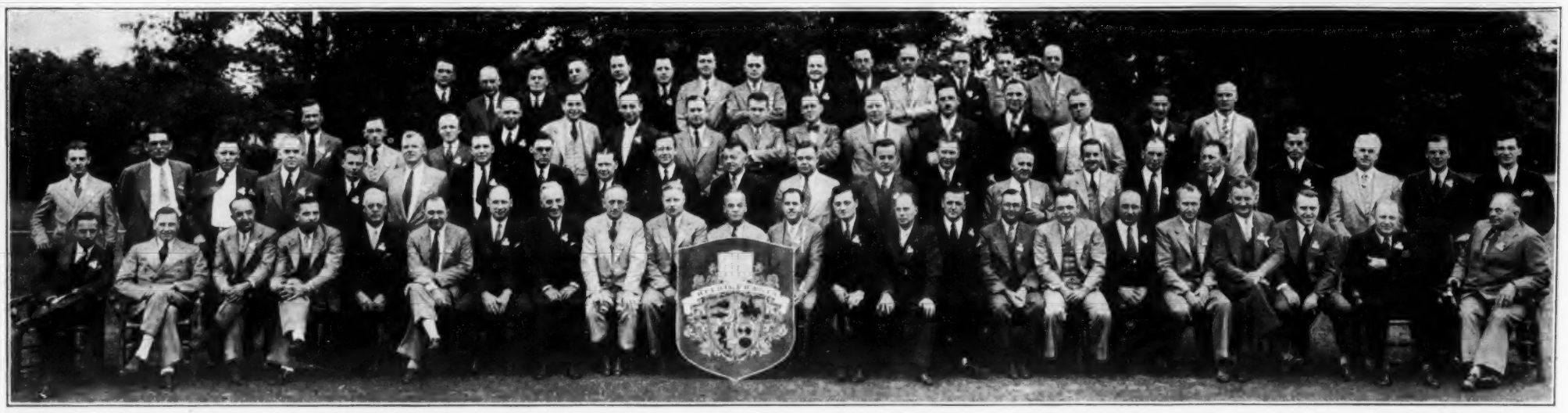
General Electric's Utility Managers Meet at Nela Camp



More than 80 General Electric central station merchandise managers attended a recent meeting at Nela Camp, Cleveland. Fall sales activities, including "Refrigerania" drive, were discussed.

NEW YORK CONCERN LEADS IN WESTINGHOUSE DRIVE

(Concluded from Page 1, Column 5)

district and fourth place by the Northeastern district.

Other salesmen who have built their first refrigerator follow: Charles J. Argus, Ironton Tire Shop, Ironton, Ohio; J. E. McCarthey, Buckley and Scott, Boston; J. W. Ryan, Times-Appliance, Inc., New York; G. Grauer, Times-Appliance, Inc.; R. S. Bates, Buckley and Scott; F. W. Braynard, Corney and Bunten, Waltham, Mass.; R. L. Rycks, L. E. Tomkins Co.; J. M. Wanner, Edgar Morris Sales Co., Washington, D. C.; O. W. Johnson, Electric Power Co., Ravenna, Ohio; Ray Cadden, Ed A. Lutz, Inc., Pawtucket, R. I.; Leo J. Selya, Buckley and Scott; J. E. Whitaker, Taylor Hardware Co., Pensacola, Fla.; J. E. Anderson, J. J. Carroll Store, Newark, Ohio, and J. W. Williamson, Edgar Morris Sales Co., Washington, D. C.

The following salesmen have completed the building of their refrigerator, but have not put the bowl of fruit on top: Marcus Cohn, Gaperin Music Co., Charleston, W. Va.; Ira S. Fahrney, M. L. Mumma Co., Harrisburg, Pa.; S. Smart, Edgar Morris Sales Co., Washington, D. C.; Robert Sofer, Whitehill & Danforth, Pittsburgh, Pa.; H. G. Ratner, Greensburg Motor Co., Greensburg, Pa.; Geo. Erickson, Harrison Refrigeration Co., Atlantic City, N. J.; H. C. Gibson, Buckley & Scott, Boston; James W. West, Buckley & Scott, Boston; R. M. Fisher, Thomas H. Broadley Co., Watertown, N. Y.; R. A. Mayor, Van Zandt Co., Huntington, W. Va.; Leo Rayhill, Kempf Bros., Utica, N. Y.; F. W. Braynard, Corney & Bunten Co., Waltham, Mass.; Robert Irwin, Buckley & Scott, Boston; M. W. Meyer, Schaffer & Co., Englewood, N. J., and M. O. Leach, Service Tire Co., Kalamazoo, Mich.

APEX DEALER APPOINTED

POUGHKEEPSIE, N. Y.—(UTPS)—The Seiden Distributing Co., is handling the Apex electric refrigerator in this territory.

Majestic Models Shown To Roycraft Dealers

(Concluded from Page 1, Column 5)

model spoke in the first person, giving the dealers all information concerning its cabinet, circuit, and price.

Luncheon was served in the Flame Room banquet hall and immediately following the luncheon, the dealers were addressed by Charles S. Collison, farm market expert of the northwest. The same talk that Mr. Collison gave this gathering of Majestic dealers was given a week previous to a gathering of government farm experts at Washington, D. C.

Fred Partridge, representative of the Grigsby-Grunow Co., addressed the dealers, as did C. E. Carl, head of the Motor Majestic division of the Grigsby-Grunow Co.

Louis W. Cohen, president of the Roycraft Corp., admonished the dealers to diversify their business, and to start immediately to sell on value rather than on price.

Orders totalling between five and six hundred sets were taken at the meeting.

Roycraft officials put in similar meetings at Duluth, Minn., on Aug. 27, and at Fargo, N. D., on Aug. 31.

MAJESTIC DISTRIBUTOR BUILDS DEALER ORGANIZATION

CLEVELAND—The Majestic Distributing Corp. has augmented their dealer force, authorizing the following new dealers on Cleveland's west side:

Buescher's Music Store, Brooklyn Furniture Co., Berger's Department Store, Bennet Medical Building Pharmacy, Cleveland Utilities Co., Cleveland Prima, Curtiss Electric Co., Daymude Electric Co., Denison Radio, Gedeon's Radio, M. E. Heller, F. C. Judson Motor Co., I. Kurtz Furniture, Linn Radio Co., George C. Lang Co., Mayer-Marks Co., L. Meier & Sons, Pfahl Electric Co., John A. Pfahl Electric, Quo Vadis Furniture Co., Radio Sales and Repair, Reidy Bros. & Flanagan, Snyder Co., Watkins Furniture Co., West End Hardware, West Market Furniture, N. C. Toung, and Young Furniture, Rocky River.

REQUESTS FOR INFORMATION

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Air Conditioning Companies

Query No. 518—"Please forward a list of manufacturers making cooling systems for homes, theaters, office rooms and restaurants."

Answer—Regarding manufacturers of small air conditioning systems suitable for room cooling, restaurants, and homes, the following companies are now furnishing such equipment:

Kelvinator Corp., Plymouth Road, Detroit; Copeland Products, Mt. Clemens, Mich.; Frigidaire Corp., Dayton; York Heating and Ventilating Corp., 16th and Samsom, Philadelphia, Pa.; Audiffren Refrigerating Machine Corp., 285 Madison Ave., New York City; Wittenmeir Machinery Co., Chicago.

The following manufacturers offer equipment for the air conditioning of theaters and large buildings:

Carbondale Machine Co., Carbondale, Pa.; Carrier Engineering Co., 850 Freilinghusen Ave., Newark, N. J.; and York Ice Machinery Co., York, Pa.

Peerless Ice Machine Co.

Query No. 519—"What company manufactures the Peerless electric refrigerator?"

Answer—Peerless Ice Machine Co., 515 W. 35th St., Chicago, manufactures condensing units for multiple apartment house installations.

Frigidaire Parts

Query No. 520—"Where can I secure Frigidaire service parts other than from Frigidaire Corp. or from a dealer?"

Answer—Iceless Refrigeration Accessories, 2401 Chestnut St., Philadelphia.

Recording Thermometers

Query No. 521—"Please send the names of manufacturers of recording thermometers for graphing refrigerator temperatures over a 24-hour period."

Answer—C. J. Tagliabue Mfg. Co., Park and Nostrand Aves., Brooklyn N. Y., and Bristol Co., Waterbury, Conn.

Meter-Ice Refrigerators

Query No. 522—"Where can Meter-Ice coin refrigerators be purchased, and who is jobbing them?"

Answer—Meter-Ice, Inc., 2842 W. Grand Blvd., Detroit, Mich.

Books on Refrigeration

Query No. 523—"I would like to secure a book or set of books dealing with the smaller types of refrigerating machinery of modern design and the different kinds of refrigerators, also ammonia and absorption machines."

Answer—Household Refrigeration, by H. B. Hull, Refrigeration Memoranda, by John Levey, and Practical Refrigeration Engineers Pocket Book, by Gardner T. Voorghees; all of which are published by Nickerson Collins, 435 N. Waller St., Chicago, Ill.

Principles of Mechanical Refrigeration, by H. J. MacIntire; Powers Practical Refrigeration, by L. H. Morrison; and Elementary Mechanical Refrigeration, by F. E. Mathews; all published by McGraw-Hill Book Co., 270 Seventh Ave., New York City.

BUYS G. E. WATER COOLERS

PHILADELPHIA—Twenty-four General Electric water coolers have b en installed in State Teachers college at West Chester. The sale was made by W. E. Gilbert, West Chester dealer.

Five model DP-3, 18 model DP-1, one DB-1, and one SS-82 water coolers were installed in college buildings.

Southern Horses Ahead In Kelvinator Derby

(Concluded from Page 1, Column 5)

Lancaster are trailing in second and third place, respectively.

On the Washington Park track, where Mobile has held first position by a good margin all through the race and looked a sure winner, a new horse, Palm Beach, has forged to the front to gain first position. Akron is running third.

Williamsport, New Haven, and Johnson City are the one, two, three horses at Bowie.

The field at Churchill Downs is led by Syracuse, with Washington (Ill.), in second place and Philadelphia in third.

Dayton is out in front at the Fairmont course, closely followed by Sault Ste. Marie and Marion.

At the Pimlico track, Commonwealth Edison is leading, with Pittsburgh in second position, and Northern States outdistancing the other entrants for show money.

Upon the close of the race, the $18,000 derby purse will be divided among the various track groups on a percentage basis after the total sales during the drive have been tabulated.

Three winners or distributors, having the highest sales records for the contest, will be chosen from each field. Then the track purses will be split as follows: 50 per cent to the winner; 30 per cent for second place, and 20 per cent for third money.

Tickets held by dealers and salesmen within the territory of winning distributors will be cashed according to their value.

Kelvinator Corp. officials recently approved a plan whereby every salesman holding Derby tickets will be rewarded whether his distributor wins or not. It will thus be necessary for all dealers and salesmen entitled to tickets to report every sale before the close of the race, as every ticket will have value, Kelvinator Derby chairmen point out.

APEX DEALERS NAMED FOR CLEVELAND SUBURBS

CLEVELAND—A group of suburban dealers for the Apex refrigerator has been announced by the Apex Electric Mfg. Co.

They are as follows: Cleveland Heights—Cedar Lee Radio Co., Jamison Hardware Co., Lee Road Electric Co., Liberty Electric Co.; Lakewood—Service Hardware Co.; Rocky River—F. S. Ingersoll; Ashland—The Home Appliance Co.; Bedford—Kolb Electric Co., Bedford Hardware and Supply Co.; Berea—Berea Radio and Supply Co., Brown Hardware Co., Reynolds Radio Co.

Chagrin Falls—Hardware, Coal & Supply Co.; Canton—Livingston Furniture Co., A. L. Oscar Co.; Chardon—Van Gorder Hardware Co.; Cuyahoga Falls—Falls Hardware Co.; Elyria—F. E. Decker; Garrettsville — Garrettsville Hardware Co.; Lorain—The Central Hardware Co.

Mantua—Weber Hardware Co.; Medina—The Home Appliance Co.; Mentor—T. L. Carlton Hardware Co.; North Olmsted—North Olmsted Electric Co.; Oberlin—Oberlin Hardware Co.; Painesville—Gail C. Grant Co.; Stow—Weber Hardware Co.; Strongsville—Henry F. Klink; Wadsworth—Wadsworth Furniture Co.; Warren—The Warner Store; Wellington—The Home Appliance Co.; Wickliffe—Carl Rogat; Willoughby—Willoughby Hardware Co.

DISTRIBUTES GIBSON UNITS

OMAHA—The Storz Supply Co., here, selling auto supplies, has entered the electric refrigeration field. This company has branches at Grand Island, North Platte, and Norfolk, Nebr.

The company will distribute the Gibson electric refrigerator for the Omaha trade territory, comprising all of Nebraska and western Iowa.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Maccabees Building, Detroit, Mich.

POSITIONS AVAILABLE

EASTERN refrigerator manufacturer, financially responsible, desires services of engineer, on salary plus royalty basis, who has perfected and is ready to have manufactured an absorption type unit operated by gas. We are also in the market for a perfected electric or otherwise operated air cooler for retail stores and homes. Give complete details. All replies held strictly confidential. Box No. 360.

POSITIONS WANTED

ATTENTION, MANUFACTURER AND DISTRIBUTOR—Service Manager wishes to connect with a progressive concern that realizes the importance of the service department—one where the writer will have opportunity to make the service department "PAY." Kindly send full particulars to Box No. 364.

ONLY TWO DOLLARS is the cost of fifty words in this column if you are looking for a new position. ($2.00 is the special paid-in-advance rate for advertisements under "Positions Wanted"). Manufacturers, distributors and dealers examine this column when they are looking for men to fill available positions.

SERVICE MANAGER Available — Capable through practical experience, of organizing and maintaining a service department—keeping within the budget, by efficient training and supervision. Box No. 365.

FRANCHISE OPEN

MANUFACTURERS may avail themselves of the special rates applicable to The Condenser column to advertise franchise opportunities in specific territories. Advertisements will be inserted under the above heading "Franchise Open." Fifty words or less —only $3.00 for a single insertion. Three insertions—$8.00.

DEALER CONDUCTS COLD COOKERY SCHOOL AT FAIR

KANKAKEE, Ill.—During the Inter-State fair the local Majestic refrigerator dealer, in connection with Harry Alter Co., Chicago distributor, conducted a Cold Cookery school in a special tent located on the fair grounds.

Harry Alter Co. secured the services of Miss Gladys E. Ford, home economist of the Knox Gelatine Co. Miss Ford has been conducting Cold Cookery schools for a number of years.

The Kankakee Piano & Music Co. provided a special tent, seating about 100 people and three classes were conducted each day, one in the morning, one in the afternoon, and one in the evening.

Miss Ford, during her demonstrations with gelatine, prepared jellied fish, salads and desserts.

SALES MANAGER

Available November 1

Leaving nationally-known manufacturer of electric refrigerators

Knows what to do and how to do it

Address BOX No. 362
Electric Refrigeration News

SUBSCRIPTION ORDER

This offer expires Sept. 30, 1931

Electric Refrigeration News
550 Maccabees Building
Detroit, Michigan September.....1931

Gentlemen:

I want to take advantage of your special offer to send the new monthly publication, Refrigerated Food News, for one year to all new subscribers to Electric Refrigeration News (issued every week), also to all old subscribers who renew, or extend their subscriptions by sending remittance on or before Sept. 30, 1931, at the old rate of $2.00 per year (3 years for $5.00).

I understand that after this date it will cost me an extra dollar to get Refrigerated Food News, also that after Jan. 1, 1932, Electric Refrigeration News will cost $3.00 per year.

I am enclosing payment in the form of ☐ Check ☐ P. O. Order ☐ Cash

Name .....

Attention of
or Care of.....

Street Address .....

City and State.....

Note: This offer applies only to United States and possessions and countries in the Pan-American Postal Union. In all other countries except Canada, new and old subscribers of the paper may take advantage of the old rate of $2.25 per year to renew for Electric Refrigeration News only. Add $1.50 for Refrigerated Food News.

Note to Canadian subscribers: Sorry, but we have to charge you $5 per year for Electric Refrigeration News and $2 per year for Refrigerated Food News on account of the new tariff of five cents per copy.

9-9-31

Written to be Read On Arrival

Merchandising Section

In Two Parts Part One

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY WEEK
VOL. 6, NO. 3, SERIAL NO. 131

Copyright, 1931, by Business News Pub. Co.

DETROIT, MICHIGAN, SEPTEMBER 23, 1931

Entered as second class matter Aug. 1, 1927, at Detroit, Mich.

TEN CENTS PER COPY
TWO DOLLARS PER YEAR

FRIGIDAIRE B. T. U. CLUB GAINS 50% IN MEMBERSHIP

Chicago Distributor Has 26 Qualified Salesmen

DAYTON—Fifty per cent more members of the Frigidaire selling organization have qualified for membership in the Frigidaire B. T. U. Quota club to date than at this time last year, according to J. A. Harlan, vice president in charge of sales of the General Motors subsidiary.

The Stover Co., Chicago distributor, is in the lead with 26 selling men who have reached or passed their 1931 sales quota. The Suburban Electric Development Co., Pittsburgh distributor, is running a close second with 23 men qualified.

Last year's Quota club records are expected to be broken early, according to Mr. Harlan, who is advised from the field that a good number of salesmen and dealers will qualify by the end of September. The Frigidaire Fifteenth Anniversary Jubilee campaign enabled many to reach their sales quotas early this year, he said.

Frigidaire's honor club this year has three classes of members. First class includes salesmen and sub-dealers. The second class is composed of dealer mem-

(Concluded on Page 16, Column 3)

APPOINTMENTS MADE IN FRIGIDAIRE REGION

DAYTON—Announcement of a number of appointments in the central sales region of Frigidaire Sales Corp., which includes territory in Ohio, Kentucky, Indiana, and Michigan, was made this week by H. H. Kennedy, regional manager.

W. G. Wright, formerly in charge of the Cincinnati metropolitan operation, has been named manager of the Cleveland district and will supervise all sales activity in the northern section of Ohio. E. C. Hill will continue as metropolitan sales manager in the city of Cleveland.

M. A. Spayd, who for several months has been connected with the Frigidaire central region office and formerly was sales manager of the Dayton retail organization, becomes manager of the sales planning division of the central region.

F. J. Marshall, former Cleveland provincial sales manager, has been named manager of the central Ohio district, consisting of territory in the Columbus section. C. M. Acker, formerly of the Dayton organization, will be manager of the Ohio-Indiana district, which includes territory in northeastern Indiana and northwestern Ohio. F. M. Davison, former sales manager in Kentucky, will manage the Ohio-Kentucky district, consisting of Cincinnati, Lexington, Louisville and southern Indiana territory.

BOSTON G. E. DISTRIBUTOR OPENS FALL SALES DRIVE

BOSTON, Mass.—Gentsch & Thompson, Inc., General Electric refrigerator distributor, held its annual fall sales meeting Sept. 10 in the main ballroom of the Hotel Statler.

Branch managers and salesmen from all sections of the company's territory attended and indulged in a sales discussion.

M. F. Mahoney, manager of the sales operations division, Cleveland, Ohio, addressed the gathering. Mr. Gentsch of Gentsch & Thompson, Inc., also spoke.

He said: "The sale of General Electric refrigerators in this territory for August was 25 per cent better than sales for the corresponding month last year and prospects point to the heaviest fall and winter business out of New England that has ever been experienced."

FRIGIDAIRE RADIO PROGRAM BROADCAST FROM GARDEN

NEW YORK—The regular Frigidaire radio program was one of a limited number that was broadcast last week from Madison Square Garden in connection with the National Radio show.

Retailers Deplore Low Prices

Addresses N. E. M. A.

GERARD SWOPE

General Electric president photographed at "Camp Refrigeration."

'HARD TIME' SOLUTION PROPOSED BY SWOPE

NEW YORK—A "hard times" solution plan, in which employer, employe, and public should be protected by the federation of all industry with a view to regulating production and standardizing business practices, was advanced by President Gerard Swope of the General Electric Co. before 600 members of the National Electrical Manufacturers' Association gathered last week for a banquet-meeting in New York City.

Under Mr. Swope's plan, which received hearty endorsement in a talk by General Electric's Board Chairman Owen D. Young, there would be organized for each industry a trade association whose work would be the regulation of production by agreement on trade practices and ethics, and the provision of standard accounting methods and regularized financial reports.

Although drafted with the advice of leaders in the electrical industry, the general proposition was planned with the idea of embracing all United States industries.

Interests of labor, the general public, and the employer were all taken into

(Concluded on Page 16, Column 1)

EXPERTS BLAZE TRAIL TO PROFITS AT CONFERENCE

Sound Merchandising Policies Discussed At Boston

By George F. Taubeneck

BOSTON—Profitable prices. Better quality merchandise. Increased advertising. More consideration of personnel. Watching the consumer, rather than your competitor. Less attention to efficiency experts and statistics and more attention to human nature.

These were the signposts to renewed prosperity which were erected at the Boston Conference on Retail Distribution, held here September 14, 15, and 16. Many of the nation's leading merchandising minds were present to take part in this annual discussion of trade problems.

Predatory price cutting was condemned vigorously by almost every speaker who ascended the rostrum.

Attacks were also made on governmental interference in business, particularly when such interference takes the form of sales taxes.

Some fear of the possibility that both Congress and several state legislatures might enact general sales tax laws in coming sessions was expressed.

One of the chief points of the dis-

(Concluded on Page 4, Column 4)

Cotton in Trade

BIRMINGHAM, Ala. — (UTPS)— The low price of cotton has almost ruined the southern farmers, but they can take their cotton and get 10 cents a pound for it on an electric refrigerator.

The Forbes Piano Co., with stores in Birmingham, Decatur, Anniston and Montgomery, is advertising that it will accept cotton at the rate of 10 cents a pound on a Majestic refrigerator. No cash is needed.

The cotton makes all necessary payments until next fall.

The cotton purchased by the Forbes company is taken off the market until prices advance.

Presents Plans

L. G. LINDSAY

Trupar vice president in charge of sales presents 1932 program.

LIQUID COOLER OPENS TEMPRITE CAMPAIGN

DETROIT—Distributors and salesmen of Temprite water coolers, manufactured by the Liquid Cooler Corp., have started competing in a sales contest which began Sept. 15, and will be brought to a close Dec. 1.

Three types of prizes will be awarded to both distributors and salesmen at the end of the contest. Distributors have been divided into groups for individual competition.

A grand prize of $100 will be awarded to the distributor making the largest volume of Temprite sales during the contest, while second prize, which will be awarded to the distributor in each group having the largest volume of sales, consists of an additional discount of five per cent on all Temprite units, parts, and accessories sold during the contest.

Any distributor who sells a total of 40 Temprite water or beverage coolers or who sends in a single order for $1,000 in equipment will be rebated an additional 10 per cent discount on all sales made during the contest.

The salesman leading all groups will

(Concluded on Page 15, Column 3)

FIELD MEN STUDY '32 SALES PLANS FOR MAYFLOWER

Trupar's Development of Commercial Lines Stressed

DAYTON—Commercial refrigeration development was the main subject discussed at a week's meeting of district representatives of Mayflower electric refrigeration, product of Trupar Mfg. Co., which ended Saturday, Sept. 19.

R. J. Lawrence, head of Trupar's commercial refrigeration department, was in charge of the meetings at which an intensive study of commercial development was made by the district sales heads.

The meeting was opened Monday morning, Sept. 14, by Harry J. Hunt, president of Trupar, who welcomed the representatives.

L. G. Lindsay, vice president in charge of sales, followed with a speech on sales plans for the coming year while W. M. Myers, treasurer, discussed the advertising and sales promotion program for 1932.

The balance of the meeting was given over to the discussion of commercial refrigeration.

Two golf tournaments were held for visiting representatives, the first one on Tuesday, Sept. 15, at Greenmount Coun-

(Concluded on Page 4, Column 5)

EASTERN FIRMS HOLD WESTINGHOUSE LEAD

MANSFIELD, Ohio, Sept. 21—Bolstered by the outstanding performances of its two distributors, Times Appliance Co. of New York City, and the Elin Co. of Newark, N. J., the Northeastern district, No. 1, continued to maintain its lead in the Westinghouse "Build-a-Refrigerator" sales contest, according to latest compilations.

The Central district, No. 6, is still a close second and the race between the two leaders is becoming intensified.

Middle Atlantic district, No. 4, and Northeastern district, No. 2, are holding third and four places, respectively, but the standings in the following places have changed.

Northwestern district, No. 7, unleashed a powerful sales drive and jumped out of the second division ranking into fifth place. This advance dropped Southeastern district, No. 5, into sixth place.

In the second division the Southwestern district, No. 8, went into seventh place, displacing Northeastern district, No. 3.

The Times Appliance Co. is leading all distributors. Wetmore-Savage Supply Co. of Boston is second and the Westinghouse Electric Supply Co. of Philadelphia is in third position. The Elin Co. of Newark has moved into fourth position since the standings were taken a month ago.

R. N. Snyder of the E. A. Maher Co., Hempstead, L. I., N. Y., is the leading retail salesman, and Allen Black of Allen-Ingraham, New York City has the lead in the apartment house field.

DETROIT METERICE OFFICE IS CHANGED TO CHICAGO

CHICAGO — The Detroit office of Meter-Ice, Inc., has been moved to 300 W. Adams St., here, and combined with the sales organization, Meterice of America Co., Ltd. This office will take care of all business east of the Rocky mountains, while the headquarters office in Los Angeles will continue to function.

MAJESTIC DEALERS GUESTS AT SALES CONCLAVE

HARTFORD, Conn.—Majestic refrigerator dealers from Connecticut, Vermont, western Massachusetts, and part of Rhode Island were guests of Stern & Co., Majestic distributor, at a sales meeting recently.

Ray E. Pulis, assistant sales manager, reported that the Majestic rental plan, recently inaugurated in Connecticut, is proving successful as a means of creating prospects for sales. A large demand for rental refrigerators has been noted, he said.

Mayflower Representatives Study Commercial Fields

District representatives of Mayflower electric refrigerators studied commercial refrigeration in a week's meeting with factory officials at Dayton.

INFORMATION NEEDED IN WHOLE FIELD--RYAN

DETROIT— "Adequate and comprehensive statistical information on the industry as a whole must be had if the manufacturer is to effectively regulate his production, sales, and general merchandising policies in harmony with prevailing economic conditions," Paul Ryan, statistician for the American Gas Association, told the assembled delegates at the Gas Appliance Manufacturers convention here, Sept. 17.

The A. G. A. headquarters statistical department is now engaged in the collection of certain statistical data which it is believed will be of maximum use and benefit to the gas appliance industry at large, Mr. Ryan explained.

Embraces Monthly Data

"For those who are not familiar with this project, it might be explained that this information in its essentials embraces monthly data on production and stocks, in physical units; and shipments, both in physical units and dollar volume, and covers the major gas consuming appliances," Mr. Ryan said.

"Such data, when taken in conjunction with surveys of the unsold field, should be a valuable guide to future sales activity, and the compilation of monthly totals should afford each manufacturer information as to the percentage of total business coming to him."

Equal on Industrial Facts

Mr. Ryan believes that the most important advantage accruing from the collection and dissemination of such statistical data would be that all those engaged in the industry could find themselves on an equal basis regarding knowledge of the basic industrial facts, so that each manufacturer would regulate not only his prices, but also his sales and production policies to accord with general business conditions.

Brings 'Mayflower' into the West

The sales organization of the San Francisco branch of Kierulff & Ravenscroft, California distributor of Mayflower refrigerators, has brought Mayflower over the top in their several territories during the past six months.

30,000 SEE REFRIGERATION EXHIBITS AT NEW ORLEANS

NEW ORLEANS—More than 30,000 persons attended the fall refrigeration show here, which closed Sept. 12.

Eleven different makes of electric refrigerators were exhibited at the five-day show. The models and exhibitors were: Copeland, Copeland Refrigerator Distributing Co.; Electrolux, A. Baldwin & Co.; Frigidaire, Frigidaire Sales Corp.; General Electric, A. G. Riddick Co.; Kelvinator, Kelvinator Corp.; Leonard, Specialty Sales Corp.; Majestic, Modern Appliance Co.; Mayflower, Shuler Automobile Supply Co.; Norge, Stauffer-Eshleman & Co.; Servel, Interstate Electric Co., and Superior, S. B. Stewart & Co.

Norge of Canada Opens Branch at Winnipeg

TORONTO—Norge Corp. of Canada, Ltd., electric refrigerator manufacturer, has opened a branch sales office at Winnipeg under the direction of Frank Speers, according to D. H. Pollitt, president and managing-director of the corporation.

The factory branch will control sales and service activities in Manitoba, Saskatchewan, and Alberta. Two other factory branches are in operation, one at St. John, New Brunswick, and the other at Montreal.

Mr. Speers joined the company in January, formerly being assistant manager in the Montreal office of DeForest Crosley, Inc.

Rost Gives Facts on Distribution Waste

BOSTON—Through the presentation of facts and figures, O. Fred Rost, director, surveys of distribution for McGraw-Hill Publishing Co., discussed waste in distribution to delegates to the Boston Conference on Retail Distribution at the morning session, Wednesday, Sept. 16.

"As we achieve a higher standard of living, the process of getting goods from the producer to the consumer has come to include many items of cost that can no longer be eliminated because the public insists on the service involved in those costs," Mr. Rost stated.

Surveys Electric Field

"I have recently completed a survey of distribution in the electrical field. There we find that the cost of the goods constituted 81 per cent of the wholesaler's total of sales. It cost him 17.8 per cent to do business and he earned 1.2 per cent net profit. His expenses could be classified in seven major groups as follows:

"Rent or occupancy expenses..	1.3%
"Selling expenses	4.3
"Advertising and promotion..	2.0
"Service and deliveries.....	1.6
"Administrative expense	4.2
"Returns and allowances.....	3.0
"Other items	1.4
	17.8%

"It can be conceded that perhaps each one of these items may be susceptible to some reduction if intensive effort is expended to bring that about," he declared, "but obviously there is no opportunity for reductions that would approach in total the percentage of waste that is claimed to prevail, unless some new way is found by which most of the functions now performed by the wholesalers can be eliminated.

Contractors, Hardware Dealers

"A group of electrical contractors and dealers paid 68.3 per cent for the goods they sold, had expenses of 31.2 per cent and made only 0.5 per cent net profit. Here, also, there is much room for improvement of methods, but the value of preventable waste could not possibly approach the quoted percentage.

"The National Retail Hardware Association in its last annual study reported that 1,353 retail hardware dealers did business during 1930 at 26.73 per cent, of which 14.67 per cent, or well over half represented salaries," Mr. Rost added. "Six hundred seventy-two of those dealers earned 4.56 per cent on sales and 1.47 per cent on cash discounts.

"Rents paid by them do not appear to be exorbitant, salaries drawn by the merchants themselves averaged less than $200 per month, their clerks averaged less than $125 per month. With other expenses in proportion, it is evident that in this line no great opportunity for waste elimination appears to exist."

Distribution Complicated

He believes, however, that as distribution has become more complicated, wasteful practices have gained a foothold.

"It, therefore, seems to me that we who are active in various branches of distribution should, each in our own field, address ourselves to the task of analyzing the costs of distribution of the various commodities in which we have a particular interest," he said in closing.

Mr. Rost emphasized the need of differentiating between the services which customers have been educated to expect and ones which cause waste in distribution.

GET SET FOR UPSWING CHERRINGTON ADVISES

BOSTON—"Preparedness should be the keynote of the present day business operations—recovery is so certain and so near that we ought to be more concerned about being ready for it than we are about the precise date of arrival," Paul T. Cherrington, distribution consultant of New York City, told the Boston Conference on Retail Distribution, Monday afternoon, Sept. 14.

"Give the young man in business a chance," was his advice as one of the means of getting ready. "It is a time which calls for action, decision, daring—all attributes of youth.

"If every big business in the country were suddenly to put control of, and responsibility for, all its line operations into the hands of competent men under 40, business would revive with startling suddenness; and if they were all under 35, our only trouble would be in keeping it from running away," was Mr. Cherrington's prediction.

Recovery Characteristics

But it is not mere courage alone that will turn the trick, the consultant warns, but it is rather the most intelligent possible use of whatever powers we have in getting into the position we want to occupy with the right frame of mind, and the right equipment for moving ahead.

Three characteristics of business in times of recovery which might serve as guide-posts in a "preparedness" campaign were enumerated by Mr. Cherrington.

"In the first place," he points out, "there is the fact that a period of recovery is a time for strategic maneuvering on the part of any business equipped and manned to take advantage of its opportunities.

Leaders Chosen Now

"At a time when general expansion in business can be counted on, it becomes possible for the more alert competitors to select strategic positions and to take for themselves those strongholds in the business which suit their fancy. To put it concretely, in many lines of business the leaders for the next 10 years are being chosen during the next 10 months.

"In the second place, a period of improving business changes some of the relative values in competitive business. Alertness is at a premium, conservatism sinks to its minimum of effective usefulness; routine becomes deadly, foresight is indispensable.

"The alert, quick-moving concern will put its sales operations on such a basis that its interests will run parallel with those of the public. The more conservative and slow-moving will take council from his past. And the public's decision will not be a matter of larger or smaller gains, but a matter of business life or death.

Time for Experiments

"If 84.8 per cent of all retail stores in New York are independent and if they do 60.35 per cent of the business, it is really an important question how they are to take advantage of their mobility and other native advantages, so that when the next census is taken the share of the chains shall not be for more than 15 per cent of the stores and 40 per cent of the business.

"A period of business recovery has a third characteristic which ought to be receiving careful attention at this time. In a time of great prosperity few active business concerns have time for experiments.

"But with expanding business the risks from failure are easily absorbed, and the profits from success are likely to be large. A new package, a new variety in colors or design, a new quality, a new form of service, a new sales plan, a new idea of any kind which fits better into the life of the consumer, is the sort of experiment which offers at this particular time a more than usual chance for large returns."

EXTEND RETAIL CREDIT TO END DEPRESSION--GOLDMAN

BOSTON—Extension of retail credit through which every employed person would be able to spend $100 was the remedy for the current depression given by Julian Goldman, president of Julian Goldman Stores, Inc., in an address at the Monday afternoon, Sept. 2, session of the Boston Conference on Retail Distribution.

"I have made various trips in most of the states in which I have endeavored to launch a campaign to encourage every American family to simultaneously and immediately spend $100 for the things that they had stopped buying," he said.

"I pointed out that if they did not want to withdraw their savings from the banks, or if the cash was not available, that they could use their credit, provided some member of the family was working," he continued. "This alone would mean almost three billion dollars in new business."

Mr. Goldman stated that this would start the wheels of industry everywhere moving and also referred to the depression of 1921, which was defeated by installment selling.

"I want to impress upon you the great value of consumer credit during a time like the present, because it is during a deflated period that installment credit should be brought into play in order to start the wheels of industry," Mr. Goldman said.

"It is this type of credit that is of greatest value when you are in the very abyss of the cycle and is the most potent force to start us upward again."

TWO WESTINGHOUSE DEALERS NAMED IN CONNECTICUT

NEW HAVEN, Conn.—The Howland-Hughes Co., Waterbury department store, and Chester R. Jones, Cheshire, have been added to the list of Westinghouse refrigerator dealers in Connecticut, according to Norman K. Fuller, sales manager for the Connecticut Electric Refrigerating Co., state distributor of Westinghouse.

KELVINATOR DEALER PLACES 70 UNITS IN APARTMENT

NEW HAVEN, Conn.—General Service & Equipment Co., Kelvinator dealer, has installed 70 Kelvinator S-4 refrigerators in the Century apartment building, according to announcement by G. R. Mance, president and treasurer.

"Send Us Some More Easy-Outs . . . the Last Order Went Like Hot Cakes . . . . . "

One Chicago Dealer has Re-ordered Three Times in Just 2 Months. Dozens of Dealers Say Easy-Outs Are the Answer to Their Prayers for a Fast-Selling Long-Profit Item.

Easy-Out
ALL-METAL TWIN ICE TRAY

Now Ready
In Sizes for Practically All Makes of Mechanical Refrigerators

Tested and Approved by Good Housekeeping Institute

No water is needed to remove the ice from the Easy-Out. Just press down sharply on ends of grid. Lift out the grid and twist or flex it. If an abnormal freezing condition occurs, a dash of water on back of tray produces immediate results.

Quick turnover plus 40% profit—there's a combination that keeps your cash register tinkling—and that's what Easy-Out dealers are reporting from coast to coast. Refrigeration dealers are putting Easy-Outs into new boxes and selling them as extra equipment. They say there is never any question about the slightly higher list on a quality item like a refrigerator.

Other dealers are selling Easy-Outs by using their service men as salesmen. The profits made in this way often pay the entire cost of the service call. The biggest newspaper advertising campaign ever put behind an ice tray is now about to break. 5,500,000 readers in one week will learn about this revolutionary all-metal ice tray.

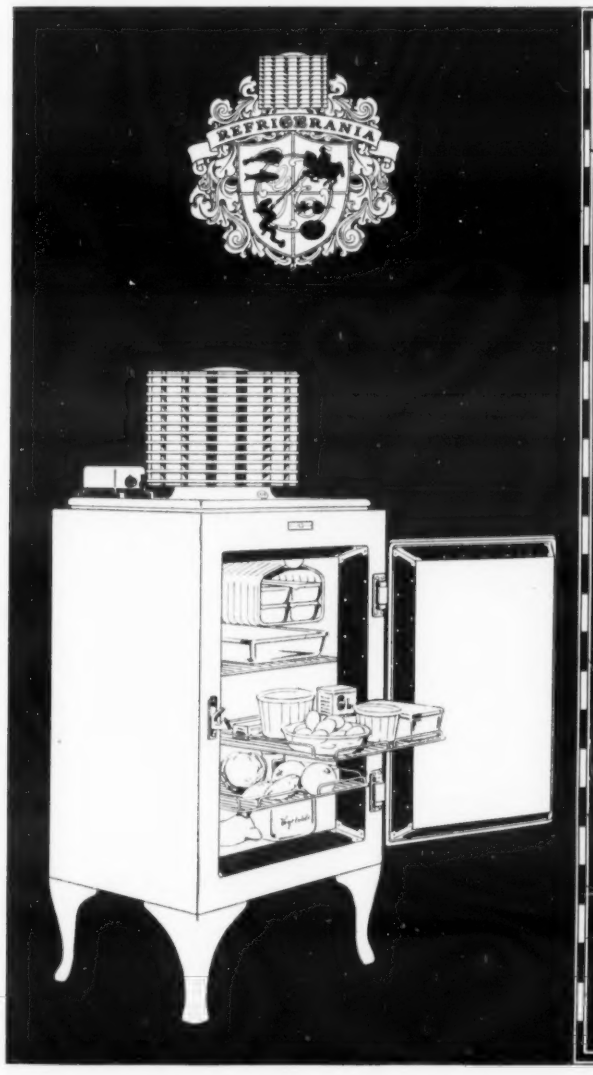
All this simply means one thing—Easy-Outs are going over BIG and the dealers who are selling them are making welcome extra profits. If you have not ordered your supply, better send in for a representative supply to-day and be ready for the demand that this and our other magazine advertising is creating.

PERSONAL TRIAL TRAY FOR $1

All dealers who write us on their own orders or letterhead as proof of bona fide interest in refrigerator selling will be sent a personal trial tray for $1. Number limited to one tray per customer. Please give size of tray you are now using and make of refrigerator, when ordering

REFRIGERATION ACCESSORIES DEPARTMENT OF McCORD RADIATOR & MFG. CO. DETROIT, MICH.

GENERAL ELECTRIC CREATES A NEW REPUBLIC *to build fall sales*



VITAL SALES ADVANTAGES

THE MONITOR TOP, in which all the simple, current-saving mechanism is hermetically sealed-in-steel. Never requires attention, not even oiling.

•

ALL-STEEL CABINET, with every corner welded. Built like a safe . . . rugged, durable—designed to give a life-time of trouble-free service.

•

PORCELAIN INTERIOR, acid and stain-resisting; clean and easy to keep clean.

•

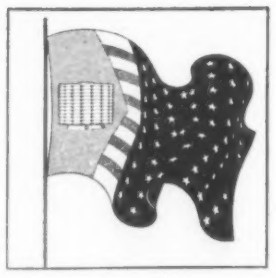
SANITARY SUPER-FREEZER—simple, full visioned; clean, ultra-efficient.

•

SLIDING SHELVES, to bring all food in plain sight and easy reach. End "reaching in," make every inch of the General Electric's roomy interior instantly available.

•

5-YEAR GUARANTEE, on the complete General Electric—every model. Backed by a spotless performance record made in more than a million kitchens everywhere.



GENERAL ELECTRIC swings into the Fall selling season with a monster campaign that embraces every member of the huge General Electric selling family! A new republic called "Refrigerania" has been created and a huge Monitor Top election is now in progress (September 14—November 21st) to select the rulers of this vast domain. Every sale is a ballot and every ballot earns a prize.

This tremendous campaign includes a definite tested selling plan for each salesman to follow. An interesting and effective slide film presentation entitled "What Mrs. Wallace Said" has been prepared to show prospects in their homes. Special national advertising urging prospects to see this film has been released. A special letter for each salesman to send to prospects inviting them to see the film is also available.

This campaign is typical of the active sales co-operation that General Electric is constantly furnishing dealers, utility companies and their salesmen. Similar campaigns are staged periodically—backed and supplemented always by the regular gigantic advertising and sales promotion activity.

Such sales support, together with the enthusiastic boosting of more than a million satisfied users based on an incomparable performance record, have combined to build a mountainous wave of public preference for The General Electric All-Steel Refrigerator.

•

General Electric Company, Electric Refrigeration Department, Section DF92, Hanna Building, 1400 Euclid Avenue, Cleveland, Ohio.

GENERAL ELECTRIC

ALL-STEEL REFRIGERATOR

DOMESTIC, APARTMENT HOUSE AND COMMERCIAL REFRIGERATORS · ELECTRIC WATER COOLERS

COPELAND LOOKS AT 1931

When the smoke of many sales campaigns has rolled away, invariably Copeland has been found doing a sound, consistent, progressive electric refrigeration business.

For years Copeland has kept everlastingly at its task. Each year has seen better Copeland ice machines. Each year has seen a larger, more powerful distributor and dealer organization. Each year the industry in general has admitted that Copeland has done a sound job.

Nineteen-thirty-one will be no exception. With a substantial and gratifying increase in business for 1930 assured, Copeland began to plan for the future and to build aggressively for the dawn of a new year—a year that is confidently expected to lift the Copeland business to new and greater heights.

Copeland knows how to make ice machines. Copeland knows how to sell ice machines. Copeland knows the problems of distributors and dealers. Copeland knows how much money it takes to operate—both from a wholesale and retail standpoint. And Copeland has always met every situation face to face.

The coming year will see greater Copeland progress—greater opportunities for Copeland distributors and dealers—than ever before.

That is Copeland's message for 1931.

COPELAND'S 1931 BUSINESS TO DATE HAS SUBSTANTIATED EVERY STATEMENT, FULFILLED EVERY PROPHECY, MADE IN THE ABOVE ADVERTISEMENT LAST NOVEMBER . . . INVESTIGATE THE COPELAND OPPORTUNITIES FOR THIS FALL AND FOR 1932.

COPELAND SALES COMPANY
332 CASS AVENUE, MOUNT CLEMENS, MICHIGAN

FOR THOSE WHO WANT THE FINEST

COPELAND

DEPENDABLE ELECTRIC REFRIGERATION

Profits Made with Quality Goods and Prices; Ads Essential, Retailers Agree

(*Concluded from Page 1, Column 3*)

cussions was the danger of volume without profit, of attempting to fight competition by lowering prices, of ruining good will and "good name" by introducing merchandise of inferior quality in answer to the demand for cheaper goods.

Scorn and derision of the so-called experts, "who led us into the depression," was registered by speaker after speaker.

The general tenor of the discussions indicated that in 1932 leading retail merchandisers are going to boot efficiency experts out of wide-open doors, and dump all their carefully prepared statistical charts into wastebaskets.

Statistical Studies Misleading

Statistical studies have been misleading because they invariably omit the most important factor of all in sales—the human equation—from their conclusions, several authorities declared.

Cooperating with the retail trade board of the Boston Chamber of Commerce in staging the conference were the National Better Business Bureau, Inc., National Retail Dry Goods Association, National Chain Store Association, National Association of Retail Clothiers and Furnishers, National Association of Retail Druggists, Advertising Federation of America, Association of National Advertisers, Inc., Wholesale Dry Goods Institute, Inc., Garment Retailers of America, Specialty Stores Association, Inc., American Management Association, Ohio State Council of Retail Merchants, the New York Retail Dry Goods Association, Retail Merchants Association of Pittsburgh, Cleveland Retail Merchants Board, Wholesale Credit Men's Association, Associated Industries of Massachusetts, New England Council, and Babson Institute.

Universities Cooperate

The following universities also cooperated: Columbia, Chicago, Dartmouth, Harvard, Pennsylvania, Ohio State, Stanford, Michigan, Northwestern, New York, Buffalo, Pittsburgh, Oregon, Wisconsin, Denver, Nebraska, and Texas.

"Study your customers, rather than figures. Find out what they want, put it in stock, advertise it thoroughly, and then let the other fellow worry about the depression. It will exist for you no longer."

Thus ran the advice of department store executives and food distributors, professors and editors, financiers and government officials.

Reports on several important speeches will be found elsewhere in this issue. Others will appear in the October 1 REFRIGERATED FOOD NEWS. The program follows:

Monday morning: "Opening Remarks," by Sidney S. Conrad, general chairman of session, president of Retail Trade Board, president of Conrad & Co.; and P. A. O'Connell, presiding, president of E. T. Slattery & Co.; "Some Major Problems in Retail Distribution," by D. F. Kelly, president of The Fair, Chicago, president of National Retail Dry Goods Association; "Relation of Mail Order and Chain Store Systems to Manufacturers," by Dr. Herbert W. Hess, Wharton School of Commerce and Finance, University of Pennsylvania; "Forces Affecting Future of Chain Distribution," by Luigi Criscuolo, economist, Merrill, Lynch & Co.; "Trends and Problems in the Grocery Field," by Sidney Rabinovitz, chairman of the board, Economy Grocery Stores Corp.; discussion, W. T. Grant, presiding, chairman of the board, W. T. Grant & Co.

Luncheon session: Richard Mitton, presiding, president of Jordan Marsh Co.; "What the Customer Wants—and Gets Today," by Amos Parrish, president, Amos Parrish & Co.

Monday afternoon: David R. Craig, chairman of session, director of Research Bureau for Retail Training, University of Pittsburgh; "The Future of the Small Community Store," by J. C. Penney, chairman of board, J. C. Penney Co.; "What Research Is Doing and Can Do for Distribution," by Charles Coolidge Parlin, manager, commercial research, Curtis Publishing Co.; "Consumer Credit Extension During a Depression," by Julian Goldman, president, Julian Goldman Stores, Inc.; "Securing Business Leadership During a Period of Business Recovery," by Paul T. Cherrington, marketing consultant; discussion, Robert F. Elder, presiding, professor of marketing, Massachusetts Institute of Technology.

Frank Krim Presides

Tuesday morning: Frank A. Krim, presiding, president of Denholm & McKay Co.; "How Can We Improve Trade Relations in the Women's Apparel Field?", by Samuel Klein, executive director, Industrial Council of Cloak, Suit and Skirt Industry; "Taking Advantage of a Depression," by John David, president, John David, Inc.; "Is Retail Advertising Efficient?", by Benjamin H. Namm, president, The Namm Store, Brooklyn; discussion, by Frank A. Black, publicity director, William Filene's Sons Co., Arthur L. Aldred, president, Gladding's, Inc., H. F. Twomey, sales promotion manager, Jordan Marsh Co., Horace A. Carter, treasurer, The William Carter Co., Gordon K. Creighton, merchandise manager, Conrad & Co., and Sam B. Anson, manager, *Cleveland Shopping News*.

Luncheon session: E. J. Frost presiding, vice president of William Filene's Sons Co.; "A Newspaper Looks at Distribution," Louis Wiley, business manager, *New York Times*.

Tuesday afternoon: Harry B. Tosdal, presiding, editor of *Harvard Business Review*, professor of marketing, Harvard Graduate School of Business Administration; "1932 Headlines as Foreseen by the Business Press," (a symposium by leading editors based on special surveys) by Louis Fairchild of *Fairchild Publications*, Ernest C. Hastings of *Dry Goods Economist*, William Nelson Taft of *Retail Ledger*, Godfrey M. Lebhar of *Chain Store Age*, O. Fred Rost of *The Business Week*, Bertram Reinitz of *Garment Review*, Elliott S. Boardman of Federal Reserve Bank of Boston, and others.

Wednesday morning: Victor W. Sincere, presiding, president of National Department Stores, Inc.; "Waste in Distribution," by Mr. Rost, director of surveys of distribution, McGraw-Hill publications; "Influence of Scientific Research on Methods of Food Distribution," by Lewis W. Waters, vice president, General Foods Corp.; "Consumers' Attitude Toward Special Sales," by R. B. Alspaugh, University of Chicago, School of Commerce and Administration; "Some Important Developments in Consumer Demand," by Paul H. Nystrom, Columbia University, School of Business; discussion, G. B. Johnson, presiding, and A. Barry Bacon, president of Chandler & Co.

Arthur Brisbane Speaks

Luncheon session: Ralph G. Wells, general chairman of session, professor of management, Boston University, College of Business Administration; P. A. O'Connell, president; "The Consumer and Retail Distribution," by Arthur Brisbane of Hearst publications; "High Points in the Boston Conference," a summary by Alexander Kaylin, associate editor of *Retailing*.

Wednesday afternoon: Frederick A. Carroll, chairman of session, vice president of the National Shawmut Bank, Boston; "What the Retail Census Shows, 1. General Summary for the United States," by R. J. McFall, chief statistician for distribution, U. S. Department of Commerce; "2. First Presentation of Complete Report on Boston," by John B. Guernsey, in charge of retail distribution, U. S. Department of Commerce; discussion, Willard E. Freeland of Freeland, Bates & Lawrence, Inc., presiding.

16 REFRIGERATION DISPLAYS AT OMAHA SHOW

OMAHA—Sixteen of the 51 exhibition booths at the Omaha Household Appliance show which closed Sept. 16 were occupied with electric refrigeration displays.

Demonstrations of the value of refrigeration were made by the Nebraska Power Co. at the three-day exhibition through the preparation of food.

The following models were displayed by Omaha dealers: Servel, Baldwin Piano Co.; Kelvinator, Graybar Electric Co. and Union Outfitting Co.; Servel Hermetic, H. C. Noll Co., Westinghouse, Boston Department Store and Sol Lewis, jeweler; Ice-O-Matic, Scholler & Mueller Piano Co.; Mohawk, A. L. Lew and National Accessories; King Kold, LeBron Electric Works; Frigidaire, F. H. Kaup; General Electric, Nebraska Power Co., and General Electric Supply Co.; Majestic, W. S. Proudfit & Co.; Norge, Dutton & Sons, and Electrolux, Metropolitan Utilities.

MAYFLOWER FIELD FORCE STUDIES COMMERCIAL UNIT

(*Concluded from Page 1, Column 5*)

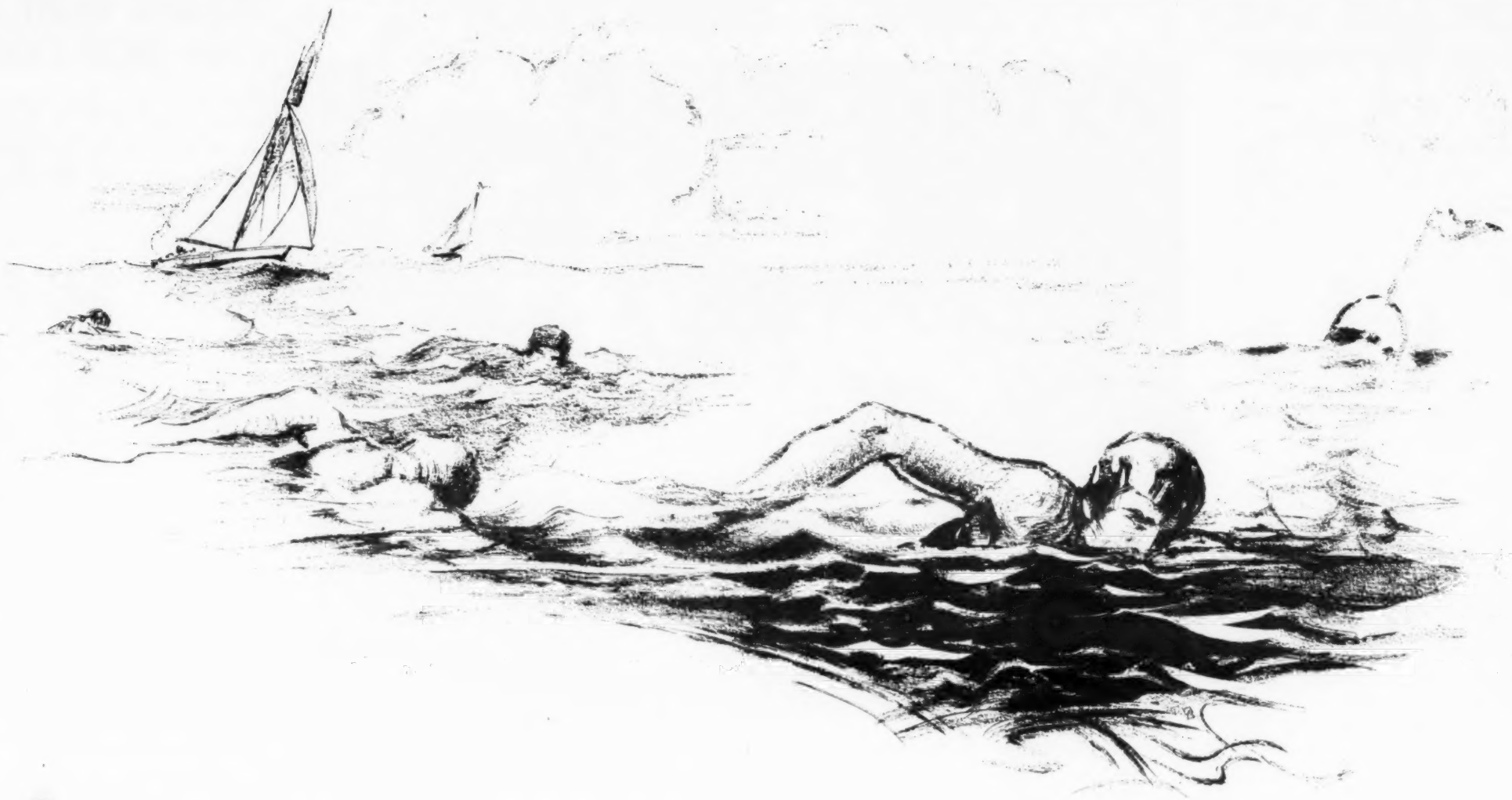
try club, and the second one, Thursday, Sept. 17. R. D. Tilley, Washington territorial representative, won the blind bogey prize Tuesday.

In Thursday's tournament, prizes were awarded for the lowest scores in each foursome. Winners were: William Seroy, Pacific coast representative; William Mundhenk, New England; N. C. Bronson, Wisconsin and Minnesota; G. L. Richardson, southeastern region, and R. Coffman, special salesman.

Among the district representatives present at the conference were: N. Wenrick, Ohio; N. C. Bronson, Wisconsin and Minnesota; B. K. Williamson, Kansas and Oklahoma; R. D. Tilley, Washington; C. H. Grandstaff, New York; H. S. Pettengill, Chicago; J. E. Saum, special factory representative; E. A. Walsh, Canada; H. S. Rheiner, Philadelphia; R. E. Hunter, southwestern; W. Mundhenk, New England; R. Coffman, special salesman; E. Richardson, special representative; G. L. Richardson, southeastern, and W. J. Seroy, Pacific coast.

ELECTROLUX PERCENTAGE

CHEROKEE, Iowa—More than two per cent of the meter customers on mains served by the Northwestern Light and Power Corp. have purchased Electrolux refrigerators during the period January to July, 1931, according to H. E. Bennett, division manager.



It's as easy to keep abreast as remain a stroke behind

From the first plunge at the starting point it's a battle of pluck and courage, of fight and endurance. It's seldom chance that wins, but perfection in every element. If wind, or strength or courage fail, the victory may be forfeited.

In the race for business, failure at any point may mean disaster. And so, in the manufacture of refrigerators, wise engineers are using Dry-Zero Pliable Slab as assurance against any failure of insulation. For they know that from the standpoint of dependable efficiency there is no choice. Dry-Zero has come to be the standard where insulation is concerned. When Dry-Zero is used it is one of the prime selling arguments.

Refrigerating engineers have set up these points to check on insulation:

THERMAL EFFICIENCY LIFE EFFECTS OF MOISTURE
FACTORY APPLICATION ODOR

Dry-Zero is outstanding in meeting the engineers' requirements. It has the highest thermal efficiency; it will outlast the refrigerator; the Dry-Zero fibre is so resistant to moisture that it is used in U. S. Navy life jackets; its sealing flange and made-to-size measurements provide instant and perfect installation with sufficient resilience to counteract assembly irregularities; it can never absorb or give off odors.

The use of Dry-Zero in thousands of domestic refrigerators, railroad refrigerator cars and refrigerated trucks over a period of years has proved what was shown in tests by the U. S. Bureau of Standards and various national institutes, that Dry-Zero is the most efficient commercial insulant known.

Many manufacturers have already wisely specified Dry-Zero Pliable Slab insulation in their refrigerators. They are finding it easier to keep abreast in the race for a market, as they have the proof for the buyer of dependable efficiency for the years to come.

DRY-ZERO CORPORATION
Merchandise Mart - Chicago, Illinois
Canadian Office - 465 Parliament Street, Toronto

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

DRY·ZERO

NAMM CLAIMS SCOPE OF ADS IS INEFFICIENT

BOSTON—That retail advertising is inefficient in scope, particularly in the field of public relation, was the message of Benjamin H. Namm, president of the Namm store, Brooklyn, in an address before the Boston Conference on Retail Distribution, Tuesday morning, Sept. 15.

"Through a wider scope, advertising can help to cure present-day ills, such as returns of merchandise, unsound legislation, and predatory price-cutting," the speaker said.

Mr. Namm expressed the view that the epidemic of returning merchandising, which adds $50,000,000 annually to the cost of distribution, could be cured by passing this information on to the customer.

The theory of "tell the customer" could also be used in halting unsound legislation which would raise the price on merchandise, the speaker believes. He mentioned in this connection a price-fixing bill and sales tax.

"Predatory price-cutting has destroyed values, profits, and public confidence," Mr. Namm said.

"Let us commend the efficient merchant who sells as cheaply as he legitimately can; but let us all denounce, through our advertising, the rapacious merchant who claims a 'divine right' to undersell all competitors, including those whose cost of doing business is so often less than his own."

Mr. Namm believes that two former ills of advertising, namely planning and imagination, have been eliminated through better methods and new discoveries in the field of printing and typography.

"Retail advertising must reach all the people that we serve with all phases of our storekeeping, and then, but not until then, will stores have done their full part," he said in closing. "I believe that at least one per cent of total advertising should be spent in the field of public relations, this in addition to the amount usually spent for sales promotion and prestige advertising.

"The results will repay the effort many times over. We already have the ear of our patrons. They are entitled to receive a full account of our stewardship."

Norge Dealer Beautifies a Float

This float, topped with beautiful girls, was entered in a Norge picnic parade at St. Louis recently.

A REFRIGERATOR MOTOR IS DIFFERENT

The Delco name is a dependable guide to sound quality in electric refrigerator motors. It stands for specialization in motors for refrigerator service. It stands for broad experience in this field—careful manufacturing—searching inspections and tests of every unit. Of greatest importance, however—every Delco Motor is individually designed for the particular appliance it drives. That means ample starting torque, ample power for full load operation, balanced provisions for long, unfailing service. More than a million Delco Motors, in use today, are giving complete satisfaction. National distribution for Delco Motors is provided through the facilities of United Motors Service branches.

DELCO PRODUCTS CORPORATION, DAYTON, OHIO

ODORGONE BEGINS SALES OF ABSORBENT OF ODORS

LOS ANGELES—(UTPS)—Odorgone Ltd., has begun marketing its new refrigerator deodorant through dealers and electric refrigerator service companies in southern California.

Introduced on the coast a short time ago, the new product, known under the name of "Odorgone," is a mineral and chemical compound which is claimed to absorb all free food flavors in the food compartments of mechanical refrigerators and other cooler boxes.

It comes in a perforated metal container, enameled white, and so treated, according to its sponsors, that it will last indefinitely without renewal. Permanently sealed, it is placed on the top shelf of the food compartment.

For commercial purposes, the size of the container depends upon the dimensions of the unit or storage box.

SOUTHERN G. E. DEALERS CONVENE AT NEW ORLEANS

NEW ORLEANS—General Electric refrigerator dealers and salesmen of Mississippi and Louisiana held a meeting at the Roosevelt hotel, Monday, Sept. 14, under the auspices of A. G. Riddick, Inc., distributor.

The meeting was addressed by A. L. Scaife, of the merchandising division of the General Electric refrigeration department, Cleveland.

More than 200 dealers and salesmen of General Electric refrigerators in Mississippi and Louisiana attended the meeting.

REFRIGERATORS WILL BE EXHIBITED AT RADIO SHOW

RICHMOND, Va.—Electric refrigerators will be added to the radio show which will be held at the Mosque, Sept. 23 to 26.

The large auditorium will be open from 7:30 to 10:30 o'clock each night and Saturday afternoon.

Robert A. Frayser of Howell Bros. is general chairman. Committee heads are as follows: entertainment, E. S. Whitlock of Thalhimer Bros.; decorations, John Wyatt, Jr. of Ollendorf & Hirsch; tickets, H. R. Purkinson of Tower Binford Electric Co.; prizes, E. W. Bugg of Dabney & Bugg; concessions, L. S. Hodges of Kirkmyer Electric Co.; censorship, R. B. Carter of Carter & Ware, and publicity, E. M. Andrews of E. M. Andrews & Co.

TEWELES MAKES 8 MULTIPLE INSTALLATIONS MONTHLY

JERSEY CITY—From six to eight multiple apartment installations monthly is the record being set by Arthur G. Teweles, north New Jersey distributor.

Since July 1, the following installations have been made: B. Siegel, Jersey City, 28; two 20-family apartments, Jersey City; Julius Vinick, Union City, 16; Samuel Brustin, North Bergen, 20; Carl Bauch, West New York, 20; Miss B. Salley, Jersey City, 24; and E. M. J. Zuber, 22, Jersey City.

The distributor recently closed a contract for the installation of 172 units in five apartments being built by S. M. Adelman and Sons, Weehawken.

RESEARCH MEANT TO STUDY TREND--PARLIN

BOSTON—"The primary function of commercial research for a corporation is to study trends in the industry and to catch a glimpse of those inexorable laws which will carry some firms to success and others to destruction," Charles Coolidge Parlin, manager of the division of commercial research, Curtis Publishing Co., told delegates to the Boston Conference on Retail Distribution, Monday morning, Sept. 14.

Mr. Parlin, who started the division 20 years ago as the first in the nation, spoke on "What Commercial Research Is Doing for Manufacturers."

"The whole field of merchandising is filled with unrest and the spirit of change. In the convenience goods fields we have the rapid development of chains and voluntary chains," he explained.

Spirit of Change

"In the shopping lines, department stores are establishing branches, suburban department stores are growing in strength, mail order businesses are operating retail stores, in specialty fields many distributors and dealers are not making money and want something different."

Mr. Parlin told the distribution experts that at the present time the Curtis division is making a survey of the automobile and food industries which were first covered more than a decade ago.

Throughout his speech, he explained various methods of research which have been used by the Curtis publications in studying the markets for various types of progress.

Requisites of Research

Mr. Parlin listed the following three requisites for making a commercial research profitable:

"1. The research man must spend the major portion of his time in the field getting the viewpoints of the people in all walks of life.

"2. The research man must do more than gather facts and tabulate statistics—he must arrive at judgments.

"3. He must sell those judgments to his superiors and to the sales representatives of the company. To do this he probably will need to demonstrate to the sales representatives that he can himself use his material effectively in making sales."

Research Worker Characterized

The commercial research man was characterized by Mr. Parlin as a student, traveler, and salesman, one who will search patiently and earnestly for the truth and not be satisfied until he has found it; one who is willing to endure the hardships of incessant travel; one who, when he has attained convictions, has the sales power to put the convictions over.

"Commercial research is not limited in its scope to a study of wholesaling and retailing," he pointed out. "It also includes the vast field of consumer studies."

Mr. Parlin explained that the commercial research man should not study statistics, but should record his findings rapidly and then go back into the field to collect new data.

GENERAL ELECTRIC UNITS PLACED IN NEW SCHOOLS

NEWARK—Installation of General Electric refrigeration equipment in two new Essex county vocational schools, erected at a cost of more than $2,000,000, has been completed by Philip H. Harrison & Co., distributor.

In the boys' school, the distributor installed a General Electric model CS-450 and PL-13, while in the girls' school, 2 C-2 water coolers, 1 G-135, 1 G-175, and 1 C-450 were installed.

The two schools are modernly equipped for vocational education and one of the features of the boys' school is an aviation machine shop.

STARR FREEZE CLEVELAND DISTRIBUTORSHIP CHANGED

CLEVELAND—Reorganization of the distributing organization for Starr Freeze electric refrigerators in this territory has been consummated through the organization of a distributing organization.

Harry Jeanette, Jr., is president of the new organization which is separate from the Starr piano distributing company. The Modern Household Supply Co. will continue as a dealer.

Other officers of the new firm are V. F. Flack, vice president, and C. C. Culbertson, secretary.

BELSEY CO. OPENS BRANCH SALES OFFICE, SHOWROOM

LOS ANGELES—New showroom and branch sales division has been opened here by the George Belsey Co., Ltd., distributor for General Electric refrigerators in southern California. Ray Curtiss, formerly with Yawman-Erb, and recently appointed commercial sales manager of the company, will direct the sales activities from the new branch.

DO YOU KNOW OF ANY OTHER SALES AGREEMENT THAT GIVES YOU

this— a complete line of domestic cabinets covering every price class — and each the leader in its field

and

?

this— such exclusive and valuable sales features as 4-Way Cold; Iso-thermic Tubes; the Frost Chest; the Kold Keeper, and many other important engineering features

and

?

this— a complete line of commercial equipment which is, admittedly, the finest line of commercial equipment built

and

?

this— the oldest name in domestic electric refrigeration

and

?

this— the backing of the largest exclusive manufacturer of refrigeration equipment in the world

and

?

this— policies that are eminently fair, liberal and based on a mutuality of interest between field and factory

and

?

this— the vital sales assistance of such outstanding advertising and sales promotion ideas as the Kelvinator Comparison Contest and the Kelvinator Derby

?

Your answer to this question must necessarily be "No" because Kelvinator alone, offers *all* of these advantages. And, in addition to these, there are other reasons why the Kelvinator Sales Agreement is regarded so highly by refrigeration dealers and by dealers in other lines of merchandise who have entered the refrigeration business.

Now is the time to *Talk To Kelvinator.* Big plans are in the making — plans that mean volume and profits for Kelvinator dealers. Write to-day for information.

Kelvinator

(3761)

KELVINATOR CORPORATION, 14245 Plymouth Road, Detroit, Michigan

Kelvinator of Canada, Ltd., London, Ontario — Kelvinator Limited, London, England

MERCHANDISING SECTION
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All that Glisters Is Not Gold

MERCHANDISING experts from all parts of the land gathered at Boston last week for the annual Conference on Retail Distribution. These men were proprietors or managers of department stores, drug stores, hardware stores, clothing stores, chain stores of many varieties. They were bankers, financiers, publishers, government officials, university professors.

From all these varied types of merchandising authorities came one opinion, an opinion voiced by speaker after speaker, and an opinion which evoked a chorus of assent each time it was expressed. The greatest evil of 1931 retailing, according to these men, is low prices.

Business houses are still seeking volume, rather than profit, it was observed. Firms would rather beat competition than make money. The result has been that more retailers have gone into the red in 1931 than at any time in the past two decades. They have had the satisfaction of underselling competitors, of drawing the wary customer into their stores, but they have lost heavily or gone out of business in the process.

Endanger 'Good Name'

Even more deplorable than the cutthroat competition which has sprung up this year is the adulteration of quality merchandise, it was the consensus of opinion at the conference.

Yielding to the pressure for lowered prices, many manufacturers have cheapened their product so much that they have seriously endangered the "good name" which they have been building up so carefully over a period of years. Entire industries may suffer from a lapse in public confidence as a result of the inferior goods marketed this year, discussion groups agreed.

"The public is laboring under the delusion," declared one speaker, "that the depression has knocked prices of good goods into a cocked hat. That isn't true. One must still pay the price for quality. You know, and I know, that the goods we have been stocking on our shelves this year have been of the poorest quality we have seen since we have been in the business.

"We know that they won't last, that the public isn't getting its money's worth when it 'takes advantage' of the so-called depression prices. Some day the public is going to wake up, and then the manufacturer is going to shed some bitter tears and, gentlemen, so are we.

"For public confidence, once lost, is not easily regained. We must save the people from themselves, particularly when so doing means that we will restore the era of profits."

Few Unemployed Bargains

Many astute buying executives will testify to the essential truth of the statement that, even though we are skidding along the bottom of a financial valley, we cannot expect cheap goods to be quality goods.

And executives who may have expected to pick up some bargains in the labor market this year and last have learned that the fact that vast numbers are unemployed does not indicate that really good men are out of work.

When the payroll is cut, it is shortened like a news story—from the bottom up. The lazy, the dense, the clock-watchers, the pensioners, and the useless ornaments are the first to go, followed by flocks of the fair-to-middling.

Valuable workers, both men and women, are still on the job, doing the work of two or three, and getting their reward in slightly increased salary checks, praise, and attention.

It's the old story that he who would dance must pay the piper. Retailers are learning that not only are they running a big risk of losing good will and confidence by palming off inferior merchandise at "depression prices," but they are robbing themselves of the chance to make profits.

Lowered prices usually mean narrow margins, and the overhead of doing a heavy business on small margins usually eats up what little profits might have been entered in the books.

Volume for volume's sake may be fun, but it isn't good business.

Almost invariably, according to those who were heard at the Boston conference, the retailers who have made comfortable profits in 1931 have been those who had quality merchandise to sell, who advertised the fact extensively, and who got a satisfactory price on what they sold.

There may be some dealers in electric refrigerators who will want to run to cover this fall, and cut prices. There will be many inexperienced retailers who will purchase fly-by-night refrigerators which can be sold, with small profit margins, at cheap prices. These price-obsessed dealers may get rid of a few refrigerators by harping on price and price alone, but they probably won't stay in the business long.

Cutting Prices

Electric refrigeration is a good business. The thousands of dealers who know this are not going to jeopardize future profits by engaging themselves in cut-price competition this fall, or by selling cheap brands put out by irresponsible and unknown manufacturers.

Moreover, these dealers who value their reputation as purveyors of quality merchandise know something that the cheap-goods man apparently has not learned. They believe that reasonably priced refrigerators can be sold this fall at a profit, and they are substantiating their belief by doing a real, honest-to-goodness selling job during the present autumn *for the first time in the history of the industry.*

Cutting prices is not only poor merchandising policy, it is unprofitable. And the electric refrigeration industry, on the threshold of the period of satisfactory profits and dividends toward which it has been building for many years, will do its best to keep product-cheapeners and easily frightened retailers from discrediting the good name of the industry by making electric refrigerators cheap-john merchandise.

On Our Bookshelves

WALTER J. DAILY, sales promotion manager of the General Electric Company's electric refrigeration department, who is one of the country's outstanding successes in the sales field through his promotion of the General Electric refrigerator, says, "Use the User."

Through the use of this slogan and his instructions on how to put it into effect, Mr. Daily has perhaps helped more direct salesmen to success than through any other one bit of sales advice put out by his company.

Mr. Daily says, "The salesman who will call on one enthusiastic user the first thing every morning will do himself immeasurable good, both morally and physically. By talking to a woman who is sold on your product at the beginning of each day, you appreciate your job more and realize you are offering something much needed by those who are not users.

"To start the day with such a feeling takes the sting out of slammed doors and wipes out the depression caused by the indifference on the part of those who do not know quite enough about your product yet. What's more, such a talk with a user usually develops new approaches, new angles of all sorts that you would not get otherwise.

"The effect so far is moral. On the physical side, what enthusiastic user is not glad to refer you to friends and relatives, often being willing to go so far as to telephone her friends, telling them she is sending you over. If she doesn't telephone, merely her permission to say she has sent you, is a door-opener."

While Mr. Daily's company often provides its salesmen with such valuable articles as water bottles especially adapted to keeping drinking water cool in electric refrigerators, which salesmen may present to their users without cost or other strings tied to them just as a matter of winning further good will, it is by no means necessary to give the customer anything to call on her and talk to her about her electric refrigerator or other product, according to Mr. Daily.

"Don't you suppose," he asks, "that she appreciates your continued interest in her use of your product, rather than dropping her like a hot iron after the sale is made? Of course she does." Another slogan Mr. Daily uses in connection with "Use the User" is "See a user first and start the day right."—*Opportunity.*

An Editor on Wheels

Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

Boston

A strange, yet understandable, welding of the machine age and eighteenth century European culture, of blue-blooded and blue-stockinged aristocracy with a red-blooded and red-eyed racketeering underworld, of gaslight flop houses and candelabraed mansions, of tense production lines and musty old churches, of history and engineering—that conglomerate mixture is Boston.

No place in America has a more concentrated collection of shrines and tombs and memorials and markers and "on-this-spot-once-stood" tablets. No place in America has a more concentrated population than metropolitan Boston. And few cities anywhere are more industrialized.

Boston is slightly more than three centuries old. Much can happen to a city in 300 years, and many types of people can come there.

Hence Boston is like an old house on which many additions have been built, each in the architecture of its generation, and all harmonizing about as well as successive bars of Chopin, Brahms, Debussy, Gershwin and Little Jack Little.

Within a radius of 15 miles of the impressive Massachusetts State House in Boston are 43 closely packed municipalities which, when combined, give Boston a metropolitan area population of 2,000,000.

Excepting a few highly exclusive residential sections, such as Brookline, Belmont, and Newton, these municipalities are all the homes of once-thriving (1929) industries.

Best example of this grafting of the machine onto the book, of the wing collar onto the overalls, of the mustache cup onto the dinner pail, is Cambridge, where Harvard university is located.

As a repository of learning and culture, Harvard stands almost unchallenged in popular fancy. Yet Cambridge has close to 400 factories which produce something like $160,000,000 worth of goods annually.

The big muscle and the bulging brain cross the same streets, develop side by side.

This juxtaposition of "book-larnin" and machine-tending is to be found throughout metropolitan Boston.

In this compact area are located more than 200 universities, colleges, technical schools, normal schools, music conservatories, art institutes, private academies, and finishing schools.

Many of these are acknowledged leaders in their particular educational fields. Harvard, of course, and Massachusetts Institute of Technology, have unquestioned rank. Likewise, the New England Conservatory of Music.

For girls, Wellesley and Radcliffe have prestige par excellence. Also highly reputable are Tufts college, Boston university, Boston college, and Simmons college.

For the industrially inclined there are scads of vocational trade, technical, and commercial schools. Also special schools for immigrants.

Not only does Boston have a myriad of classrooms, but it offers multitudes of books as well to those seeking education.

Public libraries, of which there are 156, contain nearly 3,000,000 volumes, while an even larger number of books are listed in the collegiate and special libraries.

Valued at $2,000,000,000, the public library in Copley Square has a million and a half volumes indexed, and an annual circulation of more than four million.

Business men are frequent visitors at the Edward Kirstein Memorial Library, which houses a noteworthy collection of business literature.

Around the corner and across the street from these schools and libraries are the factories, almost 5,000 of them.

First among these manufacturing establishments are those producing shoes and allied leather goods lines.

Next in order is the Boston printing and publishing industry. Beginning in 1679, when (according to my history-books), Stephen Daye established at Cambridge the first printing press in America, the printing trade has grown and flourished there.

A Boston newspaperman tells me that at least a hundred daily and weekly newspapers (including foreign language and financial papers), are published in metropolitan Boston.

There are also a number of book publishing houses, including several of the largest school textbook publishers in the country.

Closely related is Boston's paper manufacturing industry. At Dalton, Mass., the paper for dollar bills and security certificates is manufactured.

In the making of novelty curtains, Boston leads the country. It is also one of the nation's great rubber manufacturing centers, producing such items as tires, footwear, raincoats, druggists' sundries, hose, belting, packing, and insulation in considerable quantities.

Electrical machinery is one of Boston's leading products, as are soap and medical supplies.

In Cambridge and Somerville are located some fairly large meat packers and slaughter houses. More than 100 candy and confectionery factories, plus some 30 or 40 ice cream makers, add to the city's home-produced food supply.

Men's and women's clothing, bakery goods, foundry and machine shop products, cutlery and tools, boxes, roasted coffee, canned foods, dyes, chemicals, textiles, stonework, musical instruments, paints and varnishes, plumbers' supplies, wooden goods, structural iron, and suspenders and garters complete the list of Boston's leading manufactured products.

One of Boston's interesting paradoxes is its transportation facilities, which are both good and bad.

Highly commendable are the electric railway lines. Subways, elevated lines, surface lines, and bus lines all combine in a rapid transit system which is unexcelled anywhere.

One can transfer from surface lines and buses to elevateds and subway, and vice versa, at regular transfer stations. You don't even need a transfer ticket.

The other side to the story is the difficulty of getting places in an automobile. Streets run every which-way, and not one of them is smooth.

Most of Boston's streets are old, narrow, winding, and goosefleshy with bumps. Also hills and dales, beaucoup.

Going by taxi any place in the business district is almost as hopeless as using the same means of locomotion in New York City's theater district about 3 o'clock at night. Inch by inch, you jerk to your destination.

The city is so old and so cluttered up with spots of historical significance that there isn't much can be done about the inconvenient streets—unless an earthquake comes along and gives the city planners a chance to start all over again.

Probably the most important factor in the growth and development of Boston is the fact that it is the most easterly of the chief Atlantic seaports, and that it has one of the most advantageous natural harbors on the coast.

Foreign trade has helped build the city since the days of the Boston Tea Party. Some shipbuilding is carried on at Quincy.

Most significant, however, is the fact that Boston is the foremost fishing port in the western hemisphere.

More than 300,000,000 pounds of fish are distributed annually from Boston. Some 700 fishing vessels deliver their catches there because it is the nearest railroad port to the Atlantic fishing banks.

Quick-freezing is now effecting remarkable changes in the procession and marketing of fish, Boston authorities declare, and since the Hub City has been the center of this development, as well as that of filleting, Boston men are expecting a rise in prosperity to be recorded in their city as a result of these innovations.

Boston newspapers are a queer lot. One of them, the staid and reputable Transcript, is very much like an English paper in its make-up and style.

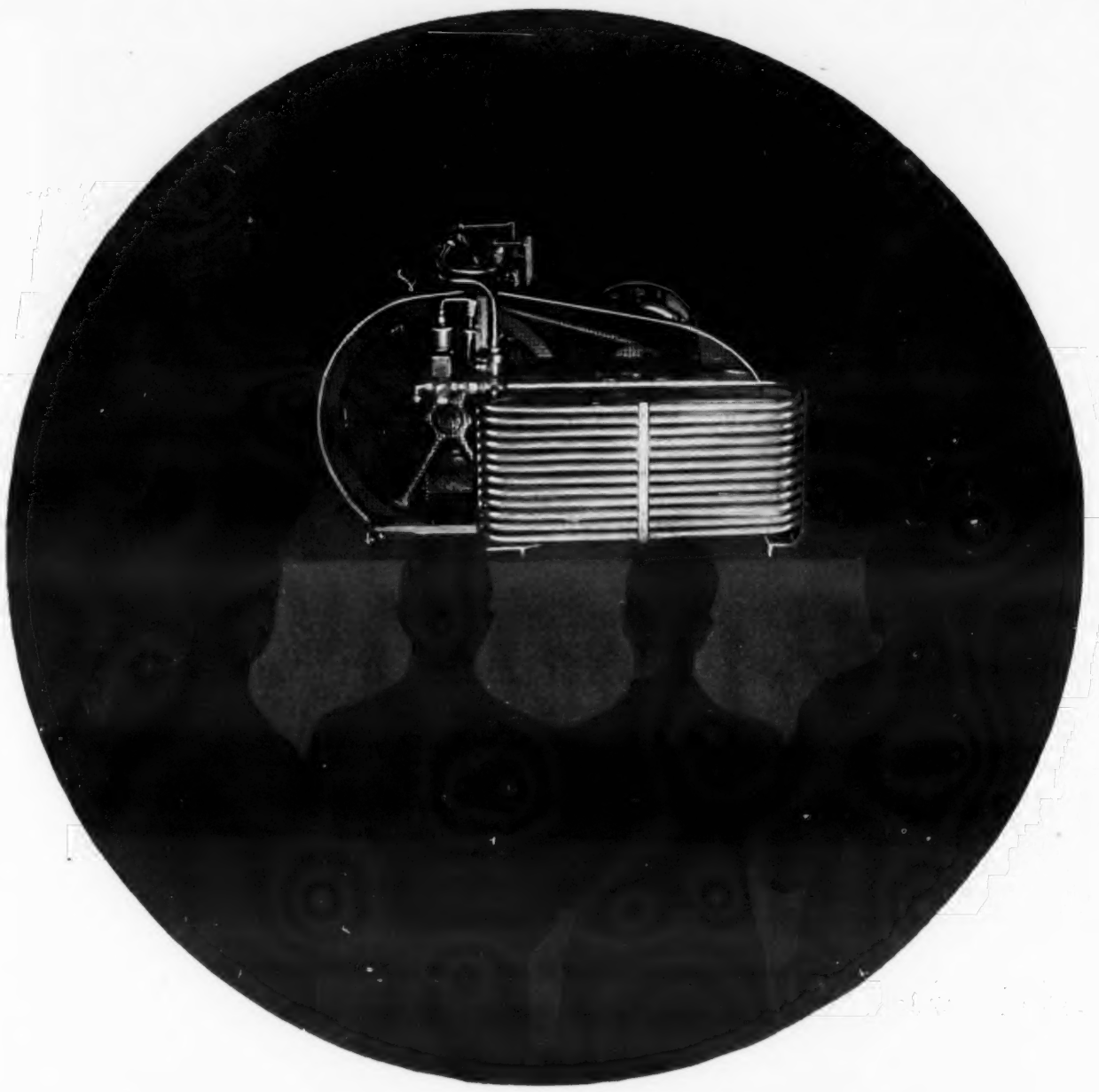
So conservative is its layout and so leisurely is its manner that staff members of rival papers often snicker:

"If you want to keep it a secret, put it in the Transcript."

It is also old-fashioned in that it still has ideals, and believes in them.

And it is so hoary with sacred tradition that its editors are almost

(Concluded on Page 12, Column 4)



IF A REFRIGERATING MACHINE COULD ONLY TALK . . . .

WHAT a story of profit-possibilities the new SERVEL Commercial Models could tell! Here are 16 modernized machine units—so powerful, so flexible, that they meet every requirement for commercial refrigeration.

Sturdier, heavier—they embody important changes in design that make them easier to sell, simpler to install, more economical to operate.

Refrigeration Plus!

Check SERVEL'S advancements with the demands of your sales force, with the suggestions of your service men, with the requirements of your prospects. Then you will realize that many of these improvements have not previously been available—that these SERVEL models are the newest note in modernized refrigeration. . . . New-type, interchangeable air-cooled and water-cooled condensers! Multiple Vee-belt drives! Automatic, snap-action controls! Uniformity of motor mountings, valves and tubing! Slower operating speed; greater refrigerating efficiency!

PLUS—a new bonded guarantee that covers both the machines and the perishables they protect—a brand new selling-point for you—a new standard of insurance for your customer. . . . For full details write Servel Sales, Inc., Dept. H-7, Evansville, Ind.

SERVEL

COMMERCIAL REFRIGERATION

■ NEW STYLE CONDENSERS: *Interchangeable; highly efficient* . . . MULTIPLE VEE-BELT DRIVES: *Insuring uninterrupted service and quiet operation* . . . SIMPLIFIED CONTROLS: *Positive action; fully automatic* . . . ECONOMICAL OPERATION: *Low-speed compressors; greater refrigeration for current used* . . . RUGGED PRECISION CONSTRUCTION: *Built for long use; compact and accurate* . . . WIDE RANGE OF 16 MODELS: *Capacities of* 130 *to* 1510 *lbs. ice equivalent per day* . . . COMPLETE GUARANTEE: *Covering both the refrigerating units and the perishable products they protect.*

GLUECK & CO. MOVES INTO NEW QUARTERS

KANSAS CITY—Spacious quarters are occupied by Glueck & Co., General Electric refrigerator distributor, in its new headquarters here.

On the exterior of the building, one sees a giant white clock on top of the structure guarded on each side by G. E. refrigerators. At night, the display is illuminated by spot lights.

The 100-ft. display windows are divided equally between commercial and apartment house models, domestic units, and water coolers. The night window is illuminated by 25 lighting units.

Showrooms are finished in walnut while the walls are in stippled sage green plaster and the ceilings are sand color. The offices in the rear are finished in the same style.

Large quarters have been provided for a conference room, accounting department, credit department, and stenographic department. In the basement, a room has been equipped with chairs, tables, and a picture screen for classroom purposes. A large storeroom occupies the middle of the lower floor.

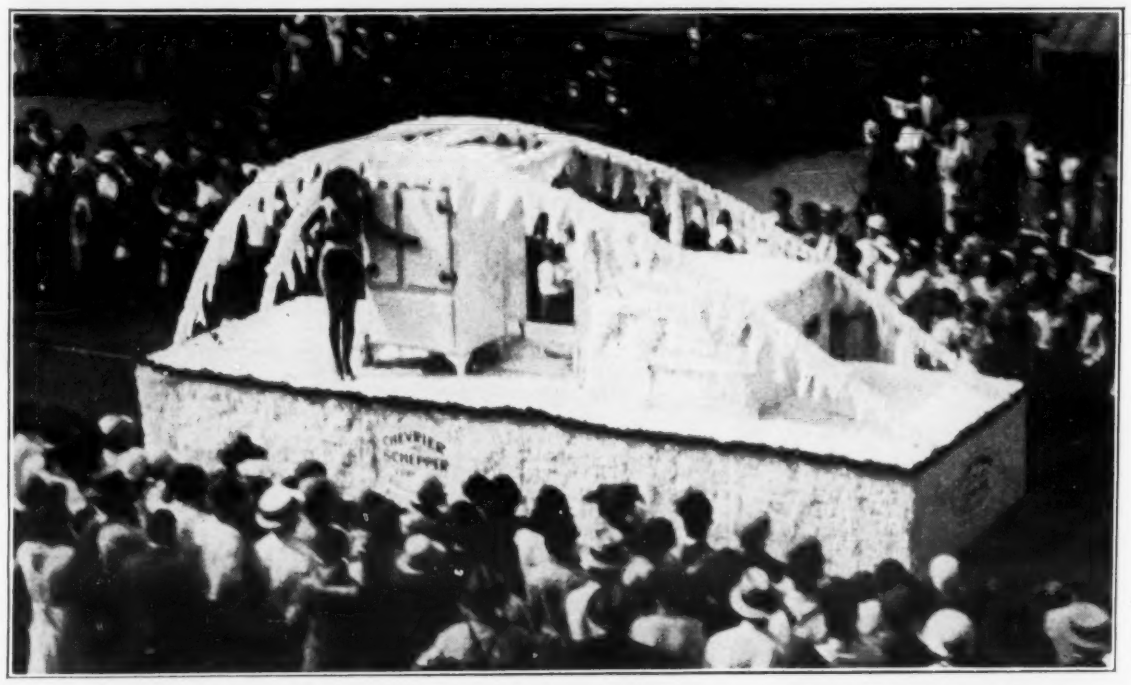
Garage space has been made in the rear of the building along with loading platforms.

NEW SALES MANAGER

CHICAGO—A. L. Fridstein has been appointed sales manager of Frank H. Johnson-Son-Crowen, Inc., Westinghouse distributor.

FILTRINE FILTERS for ELECTRIC WATER COOLERS
GUARANTEED
FILTRINE MFG. CO.
49 Lexington Ave. - Brooklyn, N. Y.
Manufacturers of filters and coolers in all sizes.

Copeland Figures in Water Carnival



In the recent water carnival at Bay City, Mich., Chevrier-Schepper, Copeland dealer, entered a float in the parade with one of the bathing beauties riding alongside a Copeland Deluxe model.

MAN WHO INSTALLED FIRST N. Y. SYSTEM DIES

TORRINGTON, Conn. — (UTPS) — John J. Guilford, 87, said to have installed the first mechanical refrigerating system in New York City, at the old Murray Hill hotel 60 years ago, died here recently. He was a native of England, but spent the greater part of his life in Torrington.

ELECTRIC REFRIGERATION MARKET BETTER IN CHINA

WASHINGTON, D. C. — (UTPS) — Changing conditions in China are making that country a good market for refrigerators, especially those of the small household type, according to a report received by the Department of Commerce from the American commercial attache at Shanghai.

Although a few of the larger cities have power facilities able to guarantee sufficient uniform voltage to make possible the installation of a large number of American electric refrigerators, the facilities in most Chinese cities have not yet reached that stage of development, the department is told. It is these latter cities that provide the market for the household refrigerator.

The belief is also expressed in the report that Chinese silk producers would find refrigerators helpful in preserving silkworm eggs and preventing them from being hatched out before the mulberry was ready for feeding.

This market for refrigerators is further improved, it is reported, by the fact that the Chinese people, once decidedly adverse to cold food, have in recent years become very fond of ice cream, iced drinks, and foodstuffs that involve the use of ice in preparation. There is also a growing appreciation for the use of ice as a preservative during the higher temperatures.

G. E. DEALER TO EXHIBIT AT EASTERN EXPOSITION

SPRINGFIELD, Mass.—Breckenridge, Inc., General Electric dealer, is fitting up three booths for its exhibit at the Eastern State Exposition, here, Sept. 20 to 26.

A general line of commercial and domestic refrigerators will be shown.

369 REFRIGERATORS SOLD DURING CONTEST

BUFFALO—In a blanket finish in which the two leading entries in the "mile refrigeration handicap" were separated by six sales, the Watertown and Herkimer county merchandise entries of the Niagara Hudson central division "stable" crossed the finish line first in the class "A" and "B" groups. The race, a month event, featured 10 entries and was run in two heats. The award was the honor of being declared central division refrigeration sales champion.

The race resulted in the sale of 369 refrigerators, 82 per cent of the quota.

In the class "A" group, Watertown flashed over the line with 118 per cent of its quota, having sold 71 against a quota of 60. Rome-Oneida followed close with 102 per cent of a quota of 50; Utica, 71 per cent, quota 80; Syracuse, 42 per cent, quota 110.

Herkimer county led the class "B" group with a high mark of 140 per cent, toppling its quota of 15 with 21 sales. St. Lawrence county also passed the goal, scoring 104 per cent of its quota of 35; Malone, 90 per cent, quota 20; Fulton, 80 per cent, quota 15; Cortland, 60 per cent, quota 20.

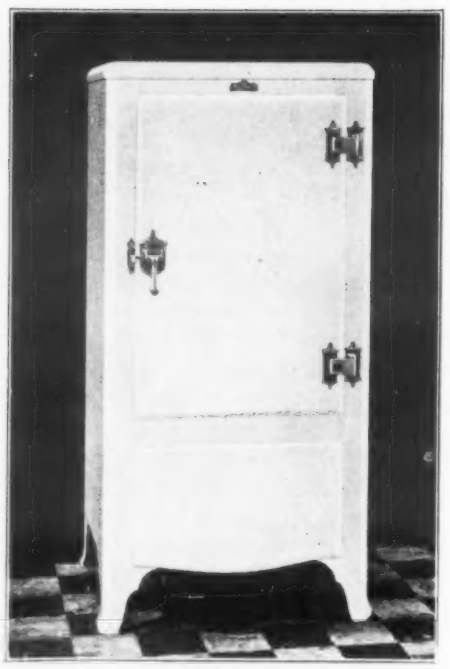
High individual honors went to A. H. Cordwell, salesman for the St. Lawrence County Utilities at Ogdensburg, who sold 27 refrigerators in the 26 working days of the contest. The other two high men were J. H. Fahnestock, Oswego, 16 sales, and Joseph Dwyer, Malone, 12 sales. Sales records were broken in Ogdensburg, Oneida and Camden.

G. E. DEALER NAMED

ANSONIA, Conn.—(UTPS)—The Androphy Electric Co. has been named a dealer for General Electric refrigerators by the Howard & Barber Co., Derby.

Electric Refrigeration *since* 1920

Eleven Years of Experience Are behind the Mayflower. It Really Is "Time Proved" Refrigeration



Single Door Model

A good many years ago we suffered all the "grief" that is seemingly inevitable when a new product is launched on the market. We had our share of this grief—but we have long since passed the experimental stage. Mayflower Electric Refrigeration of 1931 has a background of eleven years' experience—a long time in this industry.

The Mayflower line is as near mechanically perfect as modern manufacturing methods can make it. You'd be amazed to know how little actual service it needs—in fact, practically none. All the "bugs" have long since been taken out. There are a great many of our jobs in perfect working condition right now that were installed in 1920.

Of course, we have learned a lot about electric refrigeration in these eleven years. Quite naturally the machines we are making now are vastly better than were our first ones. In addition to Mayflower's mechanical perfection, the cabinets are correctly styled in period design—designs that will harmonize with any kitchen.

So you can see there's a very real and tangible value to the Mayflower franchise. We will gladly tell you about our distributor proposition.

TRUPAR MANUFACTURING CO.
DAYTON OHIO

MAYFLOWER
ELECTRIC REFRIGERATION

KELVINATOR CAMPAIGN TO BE STUDIED AT UNIVERSITY

DETROIT—Use of a Kelvinator Corp. sales promotion campaign, which showed how more coverage would multiply sales and profit opportunities, will be made in a case study of advertising and selling at the University of Michigan this semester.

T. Kenneth Haven and Edgar H. Gault of the bureau of business research and school of business administration at the university have been planning the course in which six cases in advertising and selling will be presented. Three of the cases will cover direct by mail selling, of which the Kelvinator literature will be one.

The two educators recently visited the Kelvinator factory here.

The Kelvinator campaign will be used specifically to show the business class coordination, all sales efforts completely tied-in to produce results.

PRESIDENT HOOVER CALLS HOME BUILDING MEETING

WASHINGTON — The question of home construction, including equipment, will be brought up at the first White House conference on home building and home ownership, which has been called by President Hoover for Dec. 2-5.

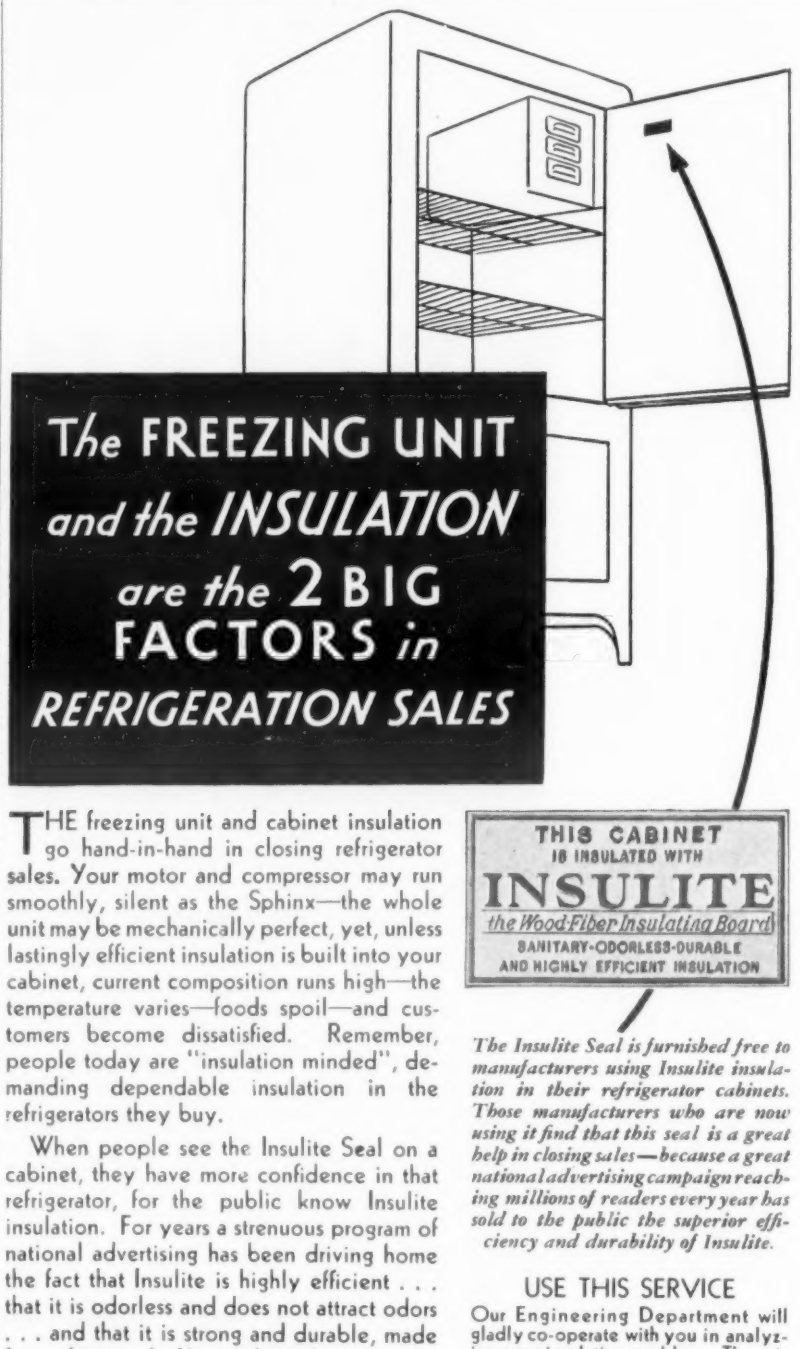
The President, in announcing the conference, said that it would deal with the whole question of home construction and ownership, and of home environment, embracing, also, finance, equipment, city planning and household management.

SERVEL GIVEN AWAY

DENVER, Colo.—(UTPS)—One of the prizes given away at the retail grocers' picnic held at Elitch Gardens was a Servel Hermetic electric refrigerator, donated by Winter-Weiss Co., distributor.

OPENS NEW STORE

FRESNO, Calif.—(UTPS)—The Kelvinator Fresno Co., distributing Kelvinator refrigerator line in central San Joaquin Valley district, has opened a new store.



The FREEZING UNIT *and the* INSULATION *are the* 2 BIG FACTORS *in* REFRIGERATION SALES

THE freezing unit and cabinet insulation go hand-in-hand in closing refrigerator sales. Your motor and compressor may run smoothly, silent as the Sphinx—the whole unit may be mechanically perfect, yet, unless lastingly efficient insulation is built into your cabinet, current composition runs high—the temperature varies—foods spoil—and customers become dissatisfied. Remember, people today are "insulation minded", demanding dependable insulation in the refrigerators they buy.

When people see the Insulite Seal on a cabinet, they have more confidence in that refrigerator, for the public know Insulite insulation. For years a strenuous program of national advertising has been driving home the fact that Insulite is highly efficient . . . that it is odorless and does not attract odors . . . and that it is strong and durable, made from the tough fibers of northern woods, chemically treated to resist moisture, and is not subject to rot or disintegration.

Furthermore, from the manufacturer's standpoint, it is real economy to use Insulite. Because it is firm and rigid, Insulite will not sag or settle, but "stays put" throughout the entire life of the cabinet. Although extremely light in weight, Insulite is structurally strong, which permits framing to be reduced to a minimum. Moreover, furnished to the size you specify, it is easily and quickly applied with no waste. Thus it lowers labor costs and speeds up production.

THIS CABINET IS INSULATED WITH
INSULITE
the Wood-Fiber Insulating Board
SANITARY-ODORLESS-DURABLE AND HIGHLY EFFICIENT INSULATION

The Insulite Seal is furnished free to manufacturers using Insulite insulation in their refrigerator cabinets. Those manufacturers who are now using it find that this seal is a great help in closing sales—because a great national advertising campaign reaching millions of readers every year has sold to the public the superior efficiency and durability of Insulite.

USE THIS SERVICE

Our Engineering Department will gladly co-operate with you in analyzing your insulation problems. There is no charge for this service. May we send you samples of Insulite and additional information?

THE INSULITE CO.
1200 Builders Exchange, Dept. 301
MINNEAPOLIS, MINN.
OFFICES IN ALL PRINCIPAL CITIES

INSULITE
the Wood-Fiber Insulating Board

TAKE ADVANTAGE OF DEPRESSION --- DAVID

BOSTON—"Any business that emerged in good condition from the test of 1930 and 1931 has in it the elements that should mean continued success as conditions improve, and such a business can practically assure its future success by taking advantage of opportunities that are brought to it by the depression," stated John David of New York, president of the company which bears his name, speaking at the Boston Conference of Retail Distribution, Tuesday morning, Sept. 15.

A period of depression brings a sharp change in the normal time practice of devoting most of the organization's attention to holding the old customers, Mr. David pointed out. Mere efforts to hold a trade are not enough, as lowered prices and less frequent per capital purchases force him to seek a great many new customers in order to maintain his volume.

Serve Many Strangers

"The stores that have made a real effort to get business have had the chance to serve an unusually large number of total strangers, and therein lies the peculiar 'advantage' of the depression," Mr. David said.

Giving the best values possible at the price—and telling the public about it, has been the David company's way of taking advantage of the depression to hold their old customers and to add 11,000 new customers during the first six months in 1931.

By seeking the cooperation of the producers and manufacturers of the goods which they retailed, they have been able to make price reductions without sacrificing value, Mr. David pointed out. This reduction in the margin line of price range brought the added number of customers even in the "hard" times.

Bought In By Advertising

"Some of these came from the higher price levels—being forced to cut their expenditures. Others came from the lower price levels, when we were reduced to their compass. Some of the new customers have been buying in our normal price range, but in other stores, and may have been brought over by the advertising campaign.

"No matter when they came or whence they came, the task of holding them now and for the future rests upon four considerations—the merchandise we sell them, the service we give, the general atmosphere of our stores, and our advertising."

Quality, style, customer satisfaction must dominate, and not price, the executive stated.

Service is even more important now that in times of normal business, Mr. David believes, and thus, instead of cutting down on service features, or giving them in slipshod fashion, in order to cut costs, he has ordered the service amplified.

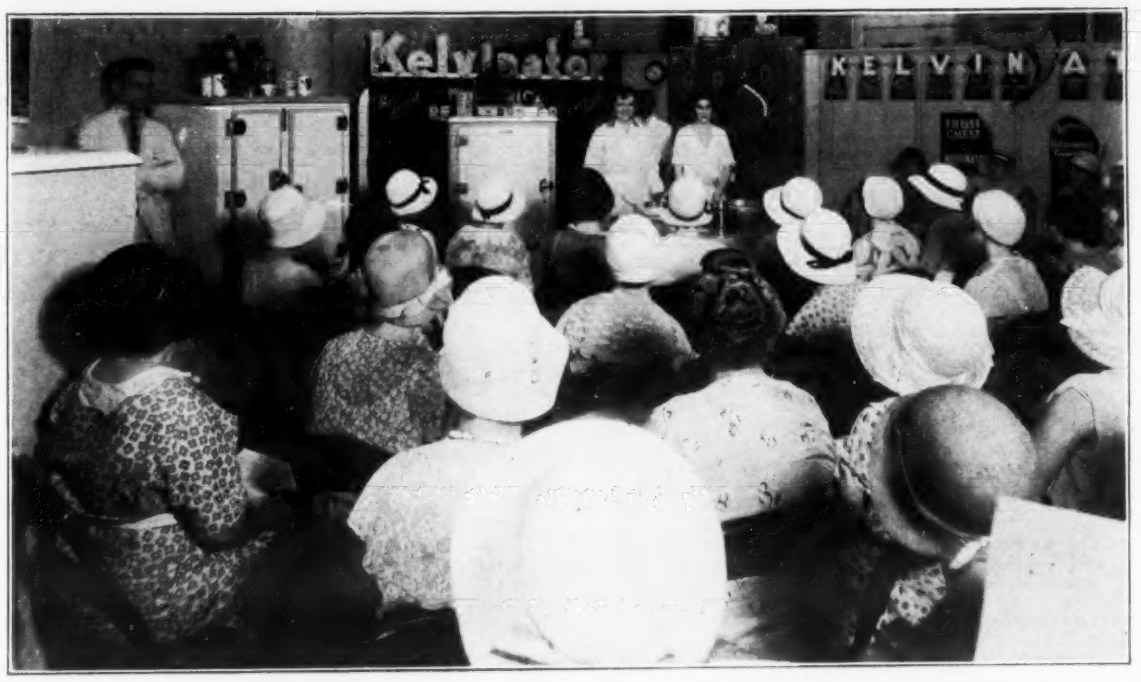
Stressing of courtesy and a trained personnel are considered by Mr. David as the underlying essentials in a more direct type of service to the customer.

"The part played by the atmosphere of the store in holding the new customer means simply that no feeling of depression must be allowed to creep in. Some stores speak eloquently of their owner's loss of courage and hope. It may be carelessness in cleaning the store, or too little heart and brain in the display—a sort of feeling that no one will come in anyway," Mr. David said.

"Our advertising has changed markedly to meet new conditions and it is more effective today, so far as direct returns are concerned, than it ever has been. We have not cut our advertising appropriation, but this year are spending more money for publicity, than at any time in our existence.

"We have told, every day, in plain English what we have to offer, and the price, in make-up that permits the salient points of our message to be read in a glance. Everything is as plain and terse as we can make it."

Arkansas Housewives Learn Cold Cookery



Gertrude Janssen, Kelvinator home economist, recently conducted a demonstration at 555, Inc., Little Rock, Arkansas, Kelvinator distributor. She worked with Mrs. Paul Sowell, 555 economist.

COPELAND DISTRIBUTOR OPENS NEW ORLEANS STORE

NEW ORLEANS—Local distributors for Copeland electric refrigerators have opened up another new display and demonstration showroom for their retailers, under the managership of J. E. Schmidt.

The Copeland is distributed here by the Edward N. Eberling Co.

The company contemplates the opening of another show and display room in September.

DEPARTMENT STORE WINS G. E. SALES CONTEST

LOS ANGELES—For the fourth time, the Broadway Department Store branch of the George Belsey Co., Ltd., won the beautiful Mayer Trophy cup for having made the greatest increase over their quota during July of any General Electric division in southern California.

HONOLULU DISTRIBUTOR SETS NEW RECORD IN JULY

HONOLULU—All previous monthly records for the sale of electric refrigerators by von Hamm-Young, Frigidaire distributor, here, were broken in July, the first month of the company's Jubilee campaign, according to R. A. Anderson, manager of the refrigeration department of that concern.

KING CAROL BUYS FRIGIDAIRE UNIT FOR PALACE

BUCHAREST—King Carol has installed an American-built electric refrigerator in his private apartments in the royal palace. The installation was made by Leonida & Co., distributor for Frigidaire Corp. in Roumania. The king's selection was an 8-cu. ft. household model.

N.E.L.A. COOPERATION SATISFACTORY, KELLY

BOSTON—Cooperation of the National Electric Light Association in stamping out unfair practices in use by certain utilities in the sale of electrical appliances has been quite satisfactory, D. F. Kelly, president of the Fair, Chicago, and of the National Retail Dry Goods Association, told the assemblage at the opening session of the Boston Conference of Retail Distribution, Monday, Sept. 14.

"The time has arrived when manufacturers and merchants should realize that theirs is a trinity of interests—the manufacturer, the retailer and the consumer," declared Mr. Kelly.

Penalized By Competitors

"The general welfare of all three should be paramount and supplant selfish competition," he said.

"Manufacturers and merchants with initiative are frequently penalized by unfair competitors. There are many who watch the other fellow before they move. When he moves, immediately the machinery of their organization is set in motion to find something that will enable them to undersell him.

Flays Flamboyant Statements

"Retail and advertising and promotion is weak in the sense that merchants seem afraid to say to their customers, 'Buy this product because it is good, and though the price seems more than you expected to pay, we assure you it is worth the money, because it cannot be first quality if sold at a lower price'," Mr. Kelly brought out.

"The merchant, the manufacturer and the retailer cannot hope for a return of prosperity until they realize that the public will respond when merchandise of a dependable character is offered to them without the flamboyant, extravagant statements made in many advertisements, which are the result of present buying methods," Mr. Kelly stated.

Just a Flip of the Finger Brings the Information You Want

• ■ •

● It's mighty convenient to have back issues of the NEWS available for quick and easy reference. Time and money often can be saved if a permanent file of back copies is handy.

● For the convenience of subscribers, ELECTRIC REFRIGERATION NEWS offers a neat, easily "workable," and good-looking binder. Individual issues of the paper are inserted by means of metal retaining strips—39 with each binder. The paper is secured without "pinching," so that each page lies flat and is easily readable.

● Durable and good quality black imitation leather is used for the stiff covers. "ELECTRIC REFRIGERATION NEWS" is neatly stamped in gold on the top cover and on the back edge of the binders.

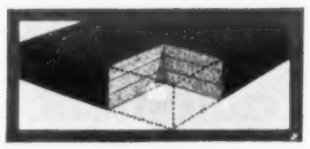
● Make it easy to find what you want, when you want it. Buy a binder!

● Shipped postpaid upon receipt of $3.75.

• ■ •

Electric Refrigeration News
550 Maccabees Bldg., Detroit

EFFICIENT

Balsam-Wool  **Sealed Slabs**

INSULATION

1. Standard with leaders in the industry
2. Preferred by the *buying* public
3. Highly efficient and *permanent*
4. Backed up with dominating advertising
5. A product of Weyerhaeuser

These are the *plus values* you get in refrigerator cabinets lined with Balsam-Wool—*true insulation.*

WOOD CONVERSION COMPANY

Mills at Cloquet, Minnesota

Industrial Sales Offices:

CHICAGO, 360 No. Michigan Ave. NEW YORK, 3107 Chanin Bldg. DETROIT, 515 Stephenson Bldg.
SAN FRANCISCO, 149 California St.

Also manufacturers of Balsam-Wool Refrigerator Car and Steel Passenger Car Insulations; Balsam-Wool Insulations for Airplanes and Motor Buses; Balsam-Wood Acoustical Treatments; Balsam-Wood Building Insulation; Nu-Wood, the All-Wood Insulating Wall Board and V-Joint Lath

Industry No Stronger than Contact with Public, Goode Tells Financial Group

BOSTON—Business today is learning one great lesson—that no industry is any stronger than its contacts with the public, Kenneth M. Goode of the Futura Publications, Inc., told the Financial Advertisers Association convention last week in Boston. The subject of Mr. Goode's address was "Let Advertising Lead."

Maintaining that this lesson is true of any industry, however grandly isolated it may be, the co-author of "More Profits from Advertising," pointed out that "we see the Bank of England, the whole world's age-old synonym for financial strength, forced into emergency borrowing because thousands of individual Britishers suddenly figured they would rather have their money in dollars than in pounds."

Mr. Goode further emphasized the "human" or "public" factor by showing that, except in war or rare disaster, all changes in business come only from a shift of relations between buyers and sellers.

"Such changes are far from arbitrary," declared Mr. Goode. "They aren't automatic, nor even mechanical. They are human. They're mental, and therefore emotional. Consequently, they can be cured by human initiative—and by human initiative only.

"In the new order of things, therefore, they should be handled by the newer generation of advertising men—experts in humanity."

Going on to give the financial advertisers "a nice pat on the back," Mr. Goode asserted that "while chartists, economists, and statisticians are busy proclaiming the top 10 or 20 per cent of people who don't buy, we advertising men have to work nights to keep the other 80 or 90 per cent buying at least enough to support the chartists, economists, and statisticians."

Economists, bankers, manufacturers, may, like the natives of India, throw themselves under their statistical juggernauts, continued the advertiser-speaker, but advertising men cannot.

He added that these advertising men are dedicated to the more human belief that people can be made to buy—that goods can be made so that people will buy—that things can be arranged so that people can buy.

Continuing with his text that "it's the human factor that counts," and re-emphasizing the importance of "mushroom economists," Mr. Goode declared that it is a grave mistake to think we have to know *exactly*—to be right all the time.

Most of the biggest successes in business, as well as politics, come from knowing one thing well, and being right *once* in a big way, he said.

"The modern passion for comparative statistics and stale news would not be so bad if it did not lead people away from *vital* factors," asserted Mr. Goode, who added that the study of the dynamics of public demands is still in its swaddling clothes.

Monday morning's program, in addition to Mr. Goode's address, included talks by the association's president, F. R. Kerman, vice president of the Trans-America Corp., San Francisco; Francis H. Sisson, vice president of the Guaranty Trust Co., New York; and Col. R. R. McCormick, publisher of *The Chicago Tribune*.

At the Monday noon luncheon the speakers were Virgil Allen, Jr., First Bank and Trust Co., Utica, N. Y.; W. E. Brockman, Northwest Bancorporation, Minneapolis; W. G. Murrah, First National Bank, Atlanta; S. F. Joor, Jr., First Trust and Deposit Co., Syracuse; Frank C. Essick, First National Bank and Trust Co., Elmira, N. Y.; Ray Ilg, National Shawmut Bank, Boston; Allen Herrick, Security-First National Bank, Los Angeles; and Stephen H. Fifield, Barnett National Bank, Jacksonville, Fla.

In the "Trust Advertising and Trust Development" session Tuesday morning, there were talks by Ripley L. Dana, of Pillsbury, Dana, Young and Moulton, Boston; A. D. Chiquoine, Jr., vice president of Batten, Barton, Durstine, and Osborn, New York; Franklin W. Ganse, manager of the Estate Protection Department of the Paul F. Clark Agency of the John Hancock Mutual Life Insurance Co., of Boston; Leopold A. Chambliss, assistant vice president, Fidelity Union Trust Co., Newark, N. J.; and Anthony Rutgers, Chatham Phenix National Bank and Trust Co., New York.

At the "Commercial Departmental" session, also meeting Tuesday morning, there were talks by Edwin Bird Wilson, president of Edwin Bird Wilson, Inc., New York; S. F. Joor, Jr., First Trust and Deposit Co., Syracuse; C. H. McMahon, assistant vice president of the First National Bank, Detroit; and L. W. Munro, Doremus & Co., Boston.

There was an "Investment Department" dinner Tuesday night at which there were talks by George Dock, Jr., Halsey, Stuart & Co., New York; W. M. Sherrill, First National Co., St. Louis; F. L. Armstrong, E. H. Ottman & Co., Chicago; and Earl Newsom, sales promotion manager, Distributors Group, Inc., New York.

At the "Trust Advertising and Trust Development" dinner, which was also Tuesday night, L. L. Montgomery, sales counselor, was the speaker. In addition there was a "New Business" dinner Tuesday night at which Ray A. Ilg, vice president of the National Shawmut Bank, Boston, spoke.

Wednesday's speakers included Charles Holcomb, vice president of Wolcott and Holcomb, advertising agency, Boston; C. W. Van Beynum, publicity director, Travelers Insurance Co., Hartford; Frank P. Bennett, editor and publisher, *United States Investor, Boston;* John Benson, president of the American Association of Advertising Agencies, New York; W. W. Townsend, American Trustee Share Corp., New York; George T. Eager, of Batten, Barton, Durstine and Osborn, New York; A. E. Bryson, of Halsey, Stuart & Co., Chicago; Wade G. Murrah, "new business" manager, First National Bank, Atlanta; Mark A. Bartlett, director of public relations, North Carolina Bank and Trust Co., Greenboro, N. C.; H. K. Dugdale, vice president, Van Sant, Dugdale and Corner, Baltimore; Gardner B. Perry, vice president of Northwest Bancorporation, Minneapolis; Walter H. Johnson, vice president, Marine Midland Group, Buffalo; Walter Dunham, president, Detroit Savings Bank, Detroit; Chester L. Price, Central Republic Bank and Trust Co., Chicago; G. Prather Knapp, Rand McNally & Co., Chicago; Edwin A. Moore, manager, New Business Department, Savings Bank of Utica, N. Y.; William Radcliffe, secretary, Peoples Savings Bank, Worcester, Mass.; and Hon. Herbert Parker, Boston.

Charles H. McMahon, assistant vice president of the First National Bank of Detroit, was elected president of the association. Chosen as the other officers were; first vice president, H. A. Lyon, Bankers Trust Co., New York; second vice president, Alva G. Maxwell, vice president of The Citizens and Southern National Bank, Atlanta; third vice president, I. I. Sperling, assistant vice president, Cleveland Trust Co.; treasurer, E. A. Hintz, cashier, Peoples Trust and Savings Bank, Chicago.

An Editor on Wheels

Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

(Concluded from Page 8, Column 4)

bound to put out a high-principled sheet of noteworthy integrity.

It's a New England institution.

A visit to the office of the *Transcript* is good fun. Having seen the office, you can imagine the paper, and vice versa. It is located, significantly and sentimentally, on the site of Benjamin Franklin's birthplace.

The building itself is a dingy, ramshackle, old affair which wouldn't dare claim more than four stories. On the street level is a stairway, prefaced by a large sign which says:

"Editors, one flight up. Reporters, two flights up."

When a reporter advances to an editorial position, he is "kicked downstairs," and thereafter doesn't have to suffer the annoyance of more physical exercise than would become a gentleman and a scholar.

Linotype operators and compositors are located *three* flights up, in a print shop that looks—save for the battery of linotypes—very much like pictures of printeries reproduced in biographies of Benjamin Franklin.

Even more ancient, moldy, and cobwebby are the editorial rooms. The furniture and layout of these offices probably haven't been changed since the first of the Adams family saw his name in the paper.

On the battered old desks, yellowed tomes, papers and letters are piled (not stacked), in mountainous disarray. No man weighing more than 110 pounds would dare sit in one of the genuine-antique chairs.

Only a well-oiled (Bostonians would say, "inebriated") writer could produce anything but a dusty-dry editorial amidst surroundings such as these.

Other Boston newspapers are among the blackest and most sensational to be found anywhere east of the Mississippi.

Mr. William Randolph Hearst's *American*, which looks just like every other Hearst paper, is sober and subdued in comparison with the *Herald*, the *Globe*, and the *Traveler*.

All Boston newspapers commit one of the unpardonable sins of modern journalism. They run advertisements on the front page.

Boston is not a pretty city, you will find, unless you are one of those individuals who discerns beauty in antique furniture.

Instead of beauty, it offers history. And if you like that sort of thing, here are some of the hallowed spots you should visit:

Birthplaces of Benjamin Franklin, Edward Everett, Elihu Yale, S. F. B. Morse (inventor of the telegraph), Rev. S. F. Smith (author of "America"), the Adams home, Boston Common (successively cow pasture, colonial army drill field, British artillery station, and Civil War training grounds), site of the Boston Massacre, site of first public school in America (1635), Griffin's Wharf (site of Boston Tea Party), Bunker Hill obelisk, Old North Church (from the steeple of which Paul Revere's signal lanterns were displayed), Constitution Wharf (where Old Ironsides was built), Dorchester Heights (where Washington's batteries drove the British out of Boston), Faneuil Hall, (focal point of the Revolution, "cradle of liberty"), John Hancock House, King's Chapel burying ground, Old Granary burying ground, Navy Yard (where frigate *Constitution* is on display), Old South Meeting House, Old State House, Park Street Church (where "America" was first sung), home of Paul Revere, Wadsworth House (temporary headquarters of Washington in 1775, and home of Harvard presidents for 123 years), and Wayside Inn (restored by Henry Ford).

Many of Boston's suburbs have historical shrines of note. We present a few:

CAMBRIDGE. Mt. Auburn cemetery (graves of Longfellow, Lowell, Agassiz, Oliver Wendell Holmes, Phillips Brooks, Edwin Booth, Edward Everett, Mary Baker Eddy, and others), home of James Russell Lowell, home of Longfellow, Old Christ Church (where Washington worshipped), site of Washington Elm, cannon captured by Ethan Allen at Fort Ticonderoga, and site of birthplace of Holmes.

LEXINGTON. Munroe tavern, Lexington Green, Pulpit Rock, stone boulder line of Minute Men, Hancock-Clarke house.

CONCORD. Site of capture of Paul Revere, home of Louisa May Alcott, home of Ralph Waldo Emerson, meeting place of First Provincial Congress, Minute Man statue, Old Manse.

SALEM. Hawthorne's birthplace, Roger Williams' church, House of Seven Gables, Court House (containing "witch pins" and original record of witchcraft trials of 1692), Old Witch House, site of hanging of "witches."

PLYMOUTH. Plymouth Rock, first Pilgrim house, first Pilgrim church, Burial Hill (which includes graves of Gov. Bradford and the Le Baron family), Pilgrim Hall, Forefather's monument.

Style note: Empress Eugenie hats are fewer and less extreme here than in any city I've visited in recent months.

The off-the-forehead felt hat so popular last year is still going strong in Boston.

Perhaps one reason for the continued popularity of this hat in Boston is that the high forehead effect it achieves lends an appearance of intellectuality to the wearer.

In Boston, that seems to count among women.

LOTHROP WINS HONORS IN KELVINATOR GOLF CONTEST

DETROIT—E. W. Lothrop, head of the statistical department of Kelvinator Corp., won low gross honors in a golf tournament held by men employes of the corporation recently. He was awarded a cup and a set of three wood clubs.

A. L. Richards, tool department, won a set of wood clubs as low net prize, while J. M. Fernald won second low gross, and E. A. Seibert, service manager, was third in the low gross class. W. A. Devlin, chief inspector, and C. V. Calkins, district manager, tied for second low net honors.

Prize winners were:

Low gross—E. W. Lothrop, first, cup and set of three wood clubs; J. M. Fernald, second, black leather duffle bag; E. A. Seibert, third, tan duffle bag; J. S. Sayre, fourth, silver flask; W. S. Race, fifth, electric toaster; J. Dohany, sixth, bill fold; G. McIntyre, seventh, tobacco jar; L. D. Burch, eighth, rain coat; B. A. McDonald, ninth, metal measuring tape; Mr. Cuffe, tenth, electric nite-lite; Mr. Goulooze, eleventh, garage extension cord.

Low net—A. L. Richards, first, cup and set of three wood clubs; W. A. Devlin, second, round tan duffle bag; C. V. Calkins, third, electric percolator; C. C. Thomas, fourth, electric clock; W. J. Smith, fifth, sweater set; J. J. O'Neill, sixth, thermos bottle; S. E. Myers, seventh, indoor golf set; Mr. Elston, eighth, ash tray; Sam Fezzy, ninth, three golf balls; Mr. Willis, tenth, electric nite-lite; Mr. Watkins, eleventh, house extension cord.

Most birdies—E. W. Lothrop, pen and pencil set; most pars—J. M. Fernald, desk pen set; highest gross score, Mr. Turner, special prize; highest score one hole, Jack Egan, paper.

FRIGIDAIRE STORE OPENED

VALLEJO, Calif.—(UTPS)—With W. K. Kehr in charge as manager, the Frigidaire Sales & Service, handling the Frigidaire line, has opened a new store here.

Selling the Market for Commercial Equipment

•

October REFRIGERATED FOOD NEWS to Feature Dairy Products and Ice Cream Applications

•

REFRIGERATED FOOD NEWS, published every month, provides an effective sales promotional medium for every concern selling commercial refrigeration. Each issue presents news of food producers, food merchants and food service establishments which are profiting by the use of modern refrigeration equipment. Each issue tells of developments in the application of refrigeration to all kinds of foods and beverages.

Following the announcement that the refrigeration of dairy products would be featured in the October issue of REFRIGERATED FOOD NEWS, one sales manager of a refrigeration selling organization has just written:

"Your new publication, REFRIGERATED FOOD NEWS, is certainly going to be a very popular and instructive publication. Let me congratulate you on your new venture.

"I note that special attention will be given in the October issue of REFRIGERATED FOOD NEWS to the application of refrigeration of dairy products. I would like to enter order now for 50 of this issue to distribute to the various dairies throughout our territory"

This sales manager is on the job. He knows that he will stimulate the interest of his prospects by bringing them valuable news and information.

You—as a dealer or salesman—will benefit by seeing that REFRIGERATED FOOD NEWS reaches *your* prospects. Arrange now to see that they receive REFRIGERATED FOOD NEWS regularly. You may obtain copies in bulk for distribution or order the papers mailed direct to your prospects.

Order for REFRIGERATED FOOD NEWS

Refrigerated Food News,
550 Maccabees Bldg., Detroit, Mich.

Please send.....copies of REFRIGERATED FOOD NEWS for..... months to names listed on attached sheet.
(10c per single copy or $1.00 per year).

☐ Check. ☐ P. O. Order. ☐ Cash enclosed.

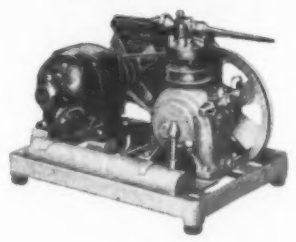
Company.....

Attention of.....

Address.....

KULAIR

Simplicity, quality, efficiency and capacity unequalled



A size for every use

Methyl Chloride or Sulphur Dioxide

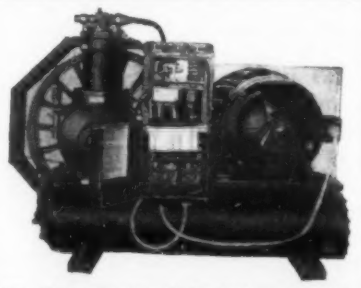
Air or Water Cooled CONDENSING UNITS

95 to 2500 Lbs.

•

The Important Enhancement
of Dealer and Retail customer confidence in Kulair clientele
Allowing Distribution and Sales
UNDER PRIVATE BRANDS
will benefit
your distributing establishment

KULAIR CORPORATION
PHILADELPHIA, PA.



DISTRIBUTOR OPPORTUNITY

COMMERCIAL

—and domestic equipment. Full range of sizes. Highest grade. Nationally known. Widely used. Excellent record. Available with or without trademark.

MERCHANT & EVANS CO.
Philadelphia Est. 1866

IDEAS AND IMPRESSIONS · COMMENT · VIEWS AND EXPERIENCES

By F. M. COCKRELL

The Bible

Returning from a trip to Chicago, Elkhart, Ligonier and Kendallville, Ind., I found a note from Charles Yates thanking members of the staff for information given during a recent visit to Detroit.

Yates is an old-timer in the electric refrigeration field and was, for a number of years, connected with the Cleveland Iceless Cooler Co. Recently he has joined the Deming Pump Co. of Salem, Ohio.

His note contains a reference to Psalms 119:105.

He adds the postscript: "I'll buy the cigars if there's a Bible in your office."

To Mr. Yates: I see that you wrote on stationery of the Palmer House, Chicago. I'll bet you found that verse in a Gideon Bible.

For your information, there was a Bible almost within reach when I first read your note. I'll admit it wasn't in the office, but you figure that out. The verse reads:

"Thy word is a lamp unto my feet, and a light unto my path."

* * *

Slogans

Now and then someone refers to the NEWS as "the Bible of the industry."

Business paper publishers have been known to use that expression to indicate the authoritative position held by their publications.

But usually there is someone ready to remind them that "people do not *read* their Bibles."

That recalls a slogan which Crocker-Wheeler Co., manufacturers of industrial electric motors, used in their advertising a number of years ago. To emphasize reliability, they adopted the phrase:

"Like the pyramids, built to last."

They gave it up when they learned that competitive salesmen had a habit of saying:

"Yes, but the pyramids don't *run*."

Good slogans, like Biblical quotations, do stick in one's mind. Sometimes perversion of the idea sticks better than the original meaning.

I had forgotten, if I ever knew, what the apostle Paul was talking about when he said:

"But none of these things move me." (Acts 20:24).

What I *have* remembered for 25 years, however, is the quip of a Burrough Bros. drug salesman who solemnly quoted the scripture and said:

"Paul wasn't talking about *our* medicine. He must have been using Parke-Davis stuff."

* * *

Talking Point

"Humanizing a Talking Point," is the title of an article in the September issue of *Printers' Ink Monthly* which tells how C. T. Mutchner of the Frigidaire Corp. found an effective way to illustrate the easy-to-keep-clean quality of the white porcelain cabinet.

Five-year-old Alan Horton, son of R. J. Horton, an employe of the Frigidaire Corp., discovered that white porcelain and black crayon make a good combination as a medium for the expression of his artistic ideas and his parents found that the Frigidaire was highly desirable as a drawing board in preference to the wallpaper and other surfaces previously used by the young artist.

When Mr. Mutchner heard of the incident from Alan's father, he immediately dispatched a photographer to get a picture of the youngster engaged at his art.

* * *

Milbourn

Early in August, while in Kalamazoo, I looked high and low for the Milburn Refrigerator Co. and finally located the sign around on the back side of a big factory building. The place was closed, whether temporarily or not, I did not learn.

Driving through Lansing recently I noticed the sign of Milbourn Mfg. Co., at 1107 Center St., and stopped to investigate. R. C. Milbourn was on the job. He informed me that his father, B. J. Milbourn, founded the company at Kalamazoo, but sold out and came to Lansing in July, 1929.

By going back into family history he found grounds for changing the spelling of the family name and thus avoided conflict with the original company.

The company works mainly in Michigan. Business in the northern peninsula is handled by the Automatic Utilities Corp. at Marquette and Houghton.

* * *

Send a Man

John D. Hollowell, Sr., general manager of Dole Refrigerating Machine Co., 1209 W. Washington Blvd., Chicago, is all fed up with distributors who are too lazy to do a job of selling refrigeration equipment.

First, they want you to "send a man" to help sell the machine, he says.

Next, they wire to "send a man" to help install it.

Finally, he says, we have to "send a man" to collect the money.

During the past year the Dole company has concentrated efforts in Chicago and total sales are ahead of the previous years.

"What is more," declares Mr. Hollowell, "we are making a nice profit."

* * *

Steady Jobs

What impressed me most was Mr. Hollowell's statement that the 12 salesmen in Chicago have ALL been with the company for over two years.

Six of them make over $5,000 per year on a straight commission basis.

A salesman who averages one commercial refrigerating machine sale per week can make that amount selling the Dole unit.

* * *

Regular Dividends

For stability over a long period, take a look in the next block at Creamery Package Mfg. Co., 1243 W. Washington Blvd.

Human Interest

Alan Horton, son of a Frigidaire employe at Dayton, discovers the possibilities of white porcelain as a medium for artistic expression. His parents were gratified to find that his sketches could be easily removed.

When I called on Harry A. Sieck, general sales manager, he announced that the company had just declared a dividend, something it has not failed to do for 44 consecutive years.

Creamery Package makes refrigerating machines from ¼-ton up to 155 tons capacity.

They can equip a dairy plant complete with everything required for its operation, all products of their own manufacture.

* * *

Ligonier Profits

In the September issue of REFRIGERATED FOOD NEWS, I listed a number of Middle West cities which I had visited and commented on the great activity in all the refrigeration equipment plants. One item read:

"A commercial refrigerator builder in Ligonier, Ind., has a sales volume ahead of last year, although profits are less."

Of course, that referred to the Hussman-Ligonier Co., but apparently I misunderstood A. B. Biddle, assistant sales manager.

W. B. McMillan, president of the company, located at the headquarters office in St. Louis, writes to correct the statement regarding profits being less.

The record of sales *and profits*, which the refrigeration industry is making this year is truly amazing, even to those in the business.

* * *

Inventories and Luck

On Monday, three of us from the NEWS office were luncheon guests of H. D. McElhinny, vice president of Copeland Sales Co., at Mt. Clemens, Mich.

According to his view, everybody in the refrigeration business today is just plain *lucky*. He has an interesting explanation of the situation.

"Manufacturers had no excessive inventories," he says.

"Dealers were not loaded up with inventories.

"The inventories were in the hands of the American public.

"The public had an inventory of automobiles, radios, furniture, and what not, which had been jammed onto it by high-pressure selling for the past 10 years.

"Then came the slump. The public was frightened and put its money in the savings bank.

"For months the public did not buy anything. Then a refrigerator salesman knocked at the door.

"The public *had no inventory of refrigerators* and was itching to spend a little money.

"The time payments were so low that the public could not resist the urge to buy.

"That's why the refrigerator people are having a picnic."

* * *

Direct Mail

One of the most thorough jobs of direct advertising which I have seen in a manufacturing plant is that being done by McCray Refrigerator Co. at Kendallville, Ind. R. J. Rehwinkle is the advertising manager in charge of the operation.

The mailing list consists of 634,000 names, all on Speedomat plates, classified into 13 major lines of business and filed geographically by counties.

A large staff of girls is constantly engaged in making new plates and corrections, filing and checking, and addressing sales literature.

Advertising matter is designed to appeal to each group of prospects, but mailings are made to *all* classifications in a selected territory at one time.

As the plates pass before the operator of the addressing machine, she notes the classification symbol on each one and picks up the proper piece of printed matter for that group.

Salesmen who follow up the advertising know that every prospect in the county has received an educational message about McCray refrigerators.

The salesmen report changes and additions so that the list is kept up to date.

Maintaining a list of that size is a tremendous job, but the *list* is the key to successful use of direct advertising.

Only a large company with a big field organization under direct control can afford the facilities and get the benefit of such a program.

* * *

Obsolete Homes

New ideas in residential construction may furnish part of the market revival necessary to end the depression, says the Union Trust Co., Cleveland.

Steel frame houses, all-steel houses and poured concrete houses are listed by the bank as types of new construction planned or being erected in different parts of the country, with the steel frame house making so far the most rapid progress.

It is declared that anything like general acceptance of steel frame residential construction might mean a 50 per cent increase in last year's market for structural steel, a demand which would go far toward putting steel and allied industries on a rapid road to recovery.

In addition to innovations in actual house construction the Trust Co. points to air conditioning systems and new and more convenient heating systems as developments which will help to make older construction obsolete and spur residential building activity.

WE BUY
New and Used ELECTRIC REFRIGERATORS
In Any Condition
Phone, Write or Wire All Details, Type of Motor, Size of Box, Etc.
KASKEY & QUINN, Inc.
525 Arch Street Philadelphia, Pa.

BY ALL MEANS COME DOWN BY THE SEA THIS FALL
HOTEL STRAND
Pennsylvania Ave. and Boardwalk
ATLANTIC CITY
Low fall rates make it possible for you to live at this splendid beach-front hotel cheaper than you can live at home.
Prices as low as $6 per day, single, with private bath and three Strand meals. Complimentary teas daily. Music. Salt water baths.
Special Weekly Rates
Also European Plan
ATLANTIC CITY IS GLORIOUS
Let us know your requirements and we will gladly please you
T. E. Randow, Mgr. H. B. Richmond, Prop.

Make your refrigerators complete!

Most people put a Vollrath Vitalizer into their refrigerator, if the refrigerator they buy is not already equipped with one. It is a snow-white enameled dish fitted with a ventilated enameled cover. In using it, fresh vegetables are laid inside, sprinkled with cool fresh water; placed in the refrigerator. The Vitalizer keeps the moisture in; holds the lettuce crisp; the celery stiff; the tomatoes firm and solid. It helps refrigerators fulfill their duties.

The sparkling white of Vollrath enamel matches in brilliance the lining of most standard refrigerators. Other profitable items to include in your refrigerator equipment are Vollrath butter-dishes, gelatine-molds, dishes for left-overs. All have steel bases, with a hard-as-glass surface of lustrous thick enamel. Institutional dealers carry these. If you prefer, you can communicate direct with us. The Vollrath Co., Sheboygan, Wisconsin. Established 1874.

VOLLRATH THE VOLLRATH CO.
The name Vollrath in this form on the label assures you of genuine Vollrath Ware.

Vollrath Ware

"The Nearest GOOD HOTEL"

. . . is one way of designating Hotel Fort Shelby when you arrive in Detroit. ¶ No other large hotel is so close to the principal railway terminals, airports and steamship piers . . . so conveniently located to Detroit's shopping, theatre, financial, insurance and wholesale districts and more universally known for its good food, rooms and service at economical rates. ¶900 units . . . all equipped with servidor and private bath. Rooms as low as $3.00 per day . . . suites $10.00 and upwards.

Motorists are relieved of their automobiles at the door without service charge. Write for free road map, and your copy of "Aglow with Friendliness," our unique and fascinating magazine.

HOTEL Fort Shelby
E. J. BRADWELL, Manager
DETROIT
"AGLOW WITH FRIENDLINESS"

Little Stories of Interesting PEOPLE In the Refrigeration Industry

THE EXPANSION VALVE

Little Stories of Interesting IDEAS In the Refrigeration Industry

By George F. Taubeneck

Ed Terhune

E. A. Terhune, president of the Appliance Engineering Co. of Boston, is quite an operator.

In the first place, he is now the largest Copeland distributor in the world. He gained that distinction within six months after tying up with the Copeland organization at the beginning of 1931.

During April and May of this year he sold more Copelands than were put out in his territory during all of 1930, thereby winning a $150 bet from Edwin H. Brown, vice president in charge of finance of Copeland Products, Inc.

In the second place, he handles a lot of oil burners. Together with the high-powered Bill Lyon, who is quite an operator himself and a keen merchandiser withal, Terhune merchandises the entire factory output of Fowler range burners. He also sells Wayne and Rightway oil burners.

By utilizing a very neat survey system, Terhune established 150 new dealers in 150 days last spring. You will hear all about that survey scheme, along with some of his other merchandising ideas, in a few moments.

But first you shall be horrified by a tale of the dastardly trick he played on the Valve. Almost had me peeping through the bars of the hoosegow.

* * *

In Which We Are Taken for a Ride

To make a short story long, we ought to begin 'way back in March, when the kolyum, "An Editor on Wheels," contained some starkly realistic (and perchance a wee bit sarcastic) observations on Boston.

Along with a flock of other Boston patriots, Terhune rose up in righteous wrath and wrote us a letter—offering, since we apparently had not seen some of Boston's better streets, to take us "for a ride."

When the editor-on-wheels arrived in Boston last week to attend the Conference on Retail Distribution, Terhune was all set. Gentlemen, we had that ride.

In the kolyum on Boston, we had remarked upon the slow pace of the Hub City's traffic. The first thing to be done, Terhune decided, was to correct that impression.

He picked me up in an open car at the University Club and drove over to his place of business like the proverbial bat out of Satan's imperial realm.

After clearing his desk of business and his office of callers like a human vacuum cleaner, he was out again and rarin' to go.

Frank Williams, Copeland regional manager, and Charles Van Maanen, Rightway oil burner representative, were with him.

"George, do you mind driving?" Terhune asked, hurriedly (he's always in a hurry). "I'd like to sit back here and talk some matters over with Frank."

Little suspecting the impending frame-up (in exchange for some of Bill Lyon's cigars, the corner traffic cop had agreed to nab me), I gleefully set out to show these sporty Boston birds how it's done in Detroit, and jumped headfirst into the trap.

A post-graduate in the science of weaving and plunging through quick openings, I was just warming to the task when we were completely surrounded by two strapping big Irish cops, big as life and three times as natural.

* * *

The Plot Thickens

The stern-faced bulls, along with my equally solemn companions (who were a great help), agreed that the Boston bastille—oh, all right, jail, then—was too good for the likes of me, but locking me up was about all that could be done. Very encouraging.

For some years I have been watching with admiration the diplomatic technique of Engineering Editor Jack Schaefer.

Jack, like the halitosis victim who was often a bridesmaid but never a bride, is frequently ordered to pull over to the curb, but never haled into court.

Doing my best to apply Jack's mild-mannered and disarming method, I was getting on famously—even got out on the street, with half of Boston for an audience, to let the big Micks smell my non-alcoholic breath.

After being released, I patted myself on the back all the way out to Terhune's home.

There, in the presence of Terhune's attractive wife (marrying her was one of the best selling jobs Terhune has ever done—he cinched it by proposing an aerial honeymoon), the villainous scheme was unfolded. Loud and prolonged were the guffaws.

As a peace offering, I was taken on an exhilarating boat ride out into Massachusetts Bay on the Terhune dreadnaught, "Swampscott."

* * *

150 Dealers in 150 Days

Some years ago Mr. Terhune was a district manager for Frigidaire. Hence, when he became a Copeland distributor, he saw only one way of going at it—doing the job up in a big way.

He wanted a lot of dealers. Good dealers. And he wanted them quick. So he sent out six men to get them, showed the men exactly how to do it, and kept the entire job *under control.*

These representatives were given mimeographed survey sheets to be filled out, with the names of the towns they were to survey, and the dates they were to be there. Each representative had to turn in these filled-out survey blanks exactly on schedule.

The survey sheet was cross-ruled and divided, with space for information on department stores, electrical stores, hardware stores, automobile sales companies and garages, furniture stores, radio and specialty stores, and miscellaneous types of retailers.

Opposite the name of each store so listed, the representative put down the address, the name of the refrigeration manager (if none, the name of the man who would probably have that title if the firm should take on a refrigeration line), the name of competitive makes of electric refrigerators handled (if any), the man or men contacted by the representative, and a graded opinion (excellent, good, fair, no good) on the store as a dealer prospect.

This opinion was based upon the physical set-up and assets of the store, plus the representative's personal reaction to the organization and its enthusiasm for refrigeration.

Representatives were instructed to canvass every business street in each town assigned to them, and report on all retail outlets of the types classified above.

Specific directions were given on another mimeographed sheet on how to make the call, and just what to ask—beginning with this: "Go in and talk with the manager (don't stand on the sidewalk and guess)."

When these sheets came back, Terhune knew exactly where he stood. Direct mail literature began going out to the desirable prospects.

The representatives were sent back to sign up what was deemed to be the best available retail outlet in each city. If that firm couldn't be had, they went after the second best.

In 150 days last spring 150 stores became Copeland dealers under the Terhune banner. *

Equipped with these survey sheets, Mr. Terhune now knows just whom to see in a particular town if the dealer selected there turns out to be weak.

And he knows something about the competitive situation in each town of his territory, too!

Not bad, eh?

* * *

Average Men Wanted

One of the unique features of the Appliance Engineering Co. organization is the fact that the president, Mr. Terhune, does not act as general manager. He hires one.

Terhune, himself, is the *sales manager.* Selling is what he knows best, and selling is the service his company is marketing. So he devotes all his energies to merchandising efforts.

That means, of course, that he hires and trains his salesmen—"district managers," he calls them, for the Appliance Engineering Co. does no direct retailing of electric refrigerators or oil burners. And he has some definite ideas as to the type of man he wants to hire.

"It takes me just three minutes to decide whether or not I want an applicant for a sales job," Terhune asserts.

"I know just what I want, and if I can't see that the applicant measures up to the specifications in a three-minute interview, I'm not interested."

Copeland's Biggest

E. A. TERHUNE
Boston Copeland distributor now handles biggest sales volume.

First among the qualifications is character.

The second requisite is that the applicant be an "average man." No prima donnas for the Appliance Engineering Co.

Men must be steady, reliable, willing to take orders, satisfied to plug hard for a living, instead of making a brilliant play for a quick killing.

"We want 'em good, but not too good," declares Terhune. "If they're too good, you can't tell 'em anything; and they're liable to jump the job whenever it begins to get tough, and run over to the pasture that always looks greener.

"Supersalesmanship is passe whenever a really meritorious product is concerned. The day of the high-pressure man is done."

High pressure has now moved into the realm of sales promotion, Terhune believes. And he thinks that is where it belongs.

Pursuing this belief, he uses plenty of advertising, and splashes it. He employs, for instance, the largest billboards in town.

* * *

Get 'em Young, Green; Tell 'em Everything

Terhune subscribes in part to the old formula, "get 'em young, treat 'em rough, and tell 'em nothing." He, however, tells them everything.

"Men with refrigeration experience not wanted," he advertises.

If a man works in the refrigeration field for a time, he either becomes good, or he doesn't, Terhune opines. If he's good, he will have a good job. If he isn't, it would be a mistake to hire him.

"Not long ago a man I knew well came in and applied for a job," relates this Bostonian. "He used to be a distributor of electric refrigerators here. I turned him down in a minute. He was too good.

"I'd rather take a $50-a-week man and help him to earn $75 a week and be happy, than take a former $125-a-week man and watch him try to be satisfied on $90 per week."

As a sample of what Terhune wants in a "district manager," we submit this sample of a display ad he ran in the classified columns of a Boston newspaper:

The "we" and "he" sentence groups were placed side-by-side in the advertisement.

Help Wanted: District Sales Manager.

WE

1. Are fastest growing specialty distributor in New England.
2. Sell wholesale only — nationally known electric refrigerators and oil burners.
3. Have not advertised for a man in nearly two years.
4. Hold a record—no man accepted for permanent position ever resigned his position with us since we started business.
5. Sold more of our brand electric refrigerators in 1931 (our first year with this product) than any other distributor of this brand in the United States.
6. Are going places.

HE

1. Must possess unquestioned qualities of character.
2. Must be 25 to 40 years old; preferably married, and must own auto.
3. Must be free from "financial frenzies" at home.
4. Must be capable of producing orders and not afflicted with "hopeitis."
5. Must SHOW US results within the first 30 days to "get in the family" permanently.
6. Must work harder than he thought he could—just to get started.
7. Must live in Vermont, New Hampshire, Rhode Island, or eastern Massachusetts.

* * *

Tune Out Radio Dealers

Mr. Terhune doesn't think much of the radio-refrigeration combination. The same salesmen can't sell both, he finds.

Moreover, radio has become over-the-counter merchandise, and has passed the specialty stage, he points out. The margin of profit is now too small to permit specialty selling methods.

Radio dealers, he observes, are too prone to wait for customers to walk into the store to make good merchandisers of electric refrigerators.

Naturally, he maintains that electric refrigerators and oil burners go hand in hand. Both go in the home, both are relatively high priced specialty articles, both—but you know the rest of the arguments.

* * *

Conference on Retail Distribution

On page one of this issue of Electric Refrigeration News begins a story on the annual Conference on Retail Distribution held in Boston last week.

This conference has come to have national significance, and brings together some of the outstanding merchandising minds of the nation.

Elsewhere in this issue you will find reports of some of the speeches made at this conference. Reports of other speeches delivered there will be printed in the Oct. 1 Refrigerated Food News.

In this writer's kolyum, "The Display Case," in the latter paper will appear some of the salient ideas of such men as J. C. Penney, Amos Parrish, Professors R. B. Alspaugh of Chicago, and Paul H. Nystrom of Columbia, and Vice President Louis F. Waters of General Foods Corp.

One of the speeches, however, belongs right here, because of its IDEAS—not new ideas, but old ones made plainly visible.

As you may have guessed, the speech is that made by Arthur Brisbane, widely syndicated editorial writer.

* * *

Arthur Brisbane

The distribution of knowledge by newspapers is like the rain—it falls everywhere and all have an equal chance to partake of its benefits.

In books and journals, however, knowledge is like an ocean—which many never see at all, and the depths of which are never plumbed.

Thus reasons Arthur Brisbane.

One of the branches of knowledge that newspapers can distribute "like the rain" is advertising. And Brisbane gives you the ABC's of advertising quickly and simply.

The fundamental principles of retailing, he declares, are:

1. Have something the people want.
2. Tell them you have it.

To convince others, you, yourself, must be convinced. Further than that, you should know something of the technique of convincing others—of advertising. A good advertisement must:

1. Make people see it.
2. Make people read it.
3. Make people understand it.
4. Make people want it.
5. Make people believe it.

"Sell your name," advises Brisbane. "Repetition means reputation. Never let people forget your name.

"If you took away from Henry Ford all his material possessions—money, factories, sources of raw materials, transportation facilities—and left him with but the nine letters that spell Henry Ford, he could take that name down to Wall Street and sell it for a billion dollars.

One of the best preparations for ad-

(Concluded on Page 15, Column 5)

Over the Bounding Main

Louis Ruthenburg, president of Copeland (with nautical cap, pipe, hand on hip), takes a trip on the "Swampscott," which belongs to E. A. Terhune (leaning against mast), Boston Copeland distributor.

You Figure It Out—We Can't!

Competition in Connecticut

Modern Home Utilities, Inc.,
Waterbury, Conn.

Editor:

Harking back to our very pleasant chat at the Island, we want to submit to you some data, for your personal information, which will assist in correcting the wrong impression that many, doubtless, will get from reading the Connecticut refrigeration article in your issue of the 12th ult.

In a general way, we have no fault to find with the article, except as we are interested in the truth and believe that your representative was sold a good idea and proceeded to make up his story without any apparent effort on his part, to learn all the truth.

We are not saying this in a disparaging way, for we have a good deal of respect and sympathy for news-gatherers, but any man out to get or to gain the meat of a story should, at least, not pass up the major distributing forces as concerns the General Electric product. The figures below will help to verify this conclusion.

The statement attributed to the power company, that they believe that, "total sales of all other dealers for all makes in the same territory closely parallel their tabulation," is not a proven fact: It is only a poor guess, as we see it.

Add to the figures below, if you have any estimates from other makes of electric refrigerators besides Frigidaire and General Electric and the few Westinghouse that the power company have sold in this state, and you will have a materially increased distribution, although we cannot hazard a good guess at this additional item.

In any event, whatever addition may be included for all other makes, besides those mentioned, will cause a shrinkage in the power company percentage, which further reflects on the article attributed to them, as penned by your reporter.

Please understand that we are submitting this information in the most friendly spirit and have nothing in mind to indicate a competitive statement, although we heard it rumored months ago that the power company was going to make a national tale of their spring campaign and let everybody know about it, which we believe is a good idea when it does not disparage the other fellow's efforts in the same area.

When you are East, we shall be glad to have you drop in and look us over.

General Electric Refrigerator Sales—1928-29-30-31.	
Total from three distributors in state, including estimate number for balance of 1931	18,566
Power Company Sales—1928-29-30-31	7,250
Total	25,816
Plus total sales of all other makes of electric refrigerators 1928-29-30-31	? ?
Grand Total	

Power Co. total (7,250) in relation to above is 28 per cent.

J. E. Neily,
Manager.

They Read the News

Electric Refrigeration Dept.,
General Electric Co.,
Cleveland, Ohio

Editor:

I thought you might like to look over the enclosed letter, which was written by Fred Harvey, our Metropolitan representative.

Evidently, Electric Refrigeration News is read or it would not stir up a controversy like this.

W. J. Daily,
Manager,
Sales Promotion Division.

Fred Harvey Quotes Some Statistics

Electric Refrigeration Dept.,
General Electric Co.,
Waterbury, Conn.

Dear Zim:

Electric Refrigeration News of Aug. 12th, published the attached article quoting, "9,000 Electric Refrigerators Sold in Connecticut in the First Six Months."

The article is misleading in that it is hard to accumulate any data that would substantiate this, and we believe the purpose was to tell the country that, through the Connecticut Light & Power Co.'s support of the N. E. L. A. program, this sales activity had been stimulated.

No credit is given the three General Electric distributors covering the state of Connecticut and further study of the results show that, by far, the major job has been done by General Electric distributors, Modern Home Utilities, Inc., Newton-Parsons Co., and Rex Cole, Inc.

The eight-year sales accomplishment of the Connecticut Light & Power Co. is represented below:

1924	26
1925	157
1926	349
1927	813
1928	1,342
1929	1,930
1930	1,863
1931	2,115 (estimated)

Mr. Neily has accumulated the data for our four-year operation, which is as follows:

Modern Home Utilities, Inc.	8,371
Newton-Parsons Co.	5,031
Rex Cole, Inc.	5,164
Total	18,566

The combined activity of General Electric and Light & Power, which has been principally Frigidaire, shows a total of 27,161 since we have been in the business, and for their eight years' activity.

In other words, the General Electric Connecticut distributors have sold almost 70 per cent of the total volume, concerning the four companies, the three General Electric distributors and the Connecticut Light & Power Co.

Of course, their activity of the first four years was not as strong as it was in the 1927 to 1931 period. We have been unable to acquire any authentic domestic sales figures from them.

We know a good share of their business has been commercial, and have found their method of recording sales in dollars and dividing it by $250.00 and showing it as unit sales.

All told, the General Electric distributors' activity is a most outstanding accomplishment.

Add further, the good number of sales made the last two years to dealers and displays, which would probably reduce their sales activity in Connecticut refrigeration history from 15 per cent to 20 per cent of the total.

We know our figures are correct, although we cannot substantiate their sales.

Fred Harvey,
Sales Representative.

Reporter Barr Defends His Story

Connecticut Trade News Service,
Stratford, Conn.

Editor:

Mr. Neily is in error when he states I did not contact Modern Home Utilities, as the enclosed letter clearly indicates. The figures given in this letter were incorporated in my survey total.

The men you talked to probably knew nothing about this correspondence. Modern Home Utilities, however, is about the largest refrigerator distributor in the state, and no survey estimate would mean anything without its total included.

Charles B. Barr.

Utility Man Replies

Connecticut Light & Power Co.,
Hartford, Conn.

Editor:

With further reference to your telegram to our Mr. Byron regarding the figures on electric refrigerator sales in Connecticut, and the reply made to your telegram, I believe that the figures given to Mr. Barr were entirely misunderstood. Mr. Barr was given the actual refrigerator sales made by this company for the last seven years, and an estimate furnished of the sales made by other dealers in our territory. This, of course, would necessarily cover only a part of the state.

In your telegram to Mr. Byron you advise that a General Electric representative had furnished certain figures. While I do not wish to directly comment on the units quoted, I would say that they are somewhat out of line as compared with the actual conditions. If, as stated, 70 per cent of the total units sold are General Electric, this would leave only 8,100 units of other makes. This number is slightly more than the sales made by this company and only a small part of our total units are of the General Electric make. Also, our territory covers but approximately one-half of the state, and does not include the three largest cities.

I am sorry that this misunderstanding has occurred, but after a further interview with Mr. Barr I was certain that the difference in figures had been satisfactorily explained. I did not see the article in question, but I understand that it appeared in a recent edition, and I am surprised that the change in figures was not made.

I would be very glad to cooperate in determining the number of electric refrigerators in use in Connecticut by supplying additional figures for our own territory, or no doubt the manufacturers will be in a position to supply reports of installations from factory records, which should, of course, give a true picture.

W. M. Walsh,
Merchandising Manager.

A Reporter's Answer

Connecticut Trade News Service,
Stratford, Conn.

Editor:

To my mind this survey business has been a tempest in a teapot. As I stated in my previous letter, which apparently you had not received when you wrote me under date of September 8th, the Modern Home Utilities total was included in the general total for the first six months of 1931. The letter from Mr. Dooley of Modern Home Utilities did not authorize me to publish the figures, which I understood were confidential.

Mr. Byron's reply (Connecticut Light & Power Co.) to your wire simply bore out what I said in the survey, that the estimate concerned only the power company's own territory, some 14 communities, I believe, and had nothing to do with the entire state.

A lot of other distributors and dealers read the story and found nothing to criticize.

Concerning Mr. Neily's statement that I "proceeded to make up the story without any apparent effort on my part to learn all the truth," I will gladly, if you desire it, make up a list of the distributors interviewed, at great expense of time and effort, and send it to you. You may then write to them to verify my statement, if you see fit.

I tried to do a sincere and thorough job on it, and so far as I can ascertain there has been no basis for a fair complaint. In view of this, the situation which has arisen has been decidedly discouraging. Hereafter I'll stick to general news and features.

Charles B. Barr.

SALES COST HIGHEST, PAIGE TELLS GAS MEN

DETROIT—"Sales cost is invariably the highest," stated Clifford E. Paige, president of the American Gas Association, at the convention of Gas Appliance Manufacturers held here, Sept. 17, "where ruinous competition has been the order of the day, where advertising copy has been framed to 'tweak' competitive noses, to 'warn' the public against competitors and to sound the 'anvil chorus' generally.

"The inveterate hammer wielder sooner or later smashes his own fingers. In industries where men have best assimilated this fact, it is significant to note that sales costs are on an economically sound basis and provide a proper standard, therefore, of doing business.

"It is my experience that every knock of competitive products acts as an invitation to competitors to strike back," Mr. Paige told the delegates. "The fundamental purposes of furthering the security of the industry as such is forgotten, and in a great many cases, is permanently lost.

"The establishment of proper standards of business practice indicates a strong determination on the part of manufacturers affiliated with this association to subscribe to the elements of fair play in business as reflected in its standards," Mr. Paige said.

"Through the adoption of sound economic statements of policy, you thus declare yourself, as a part of the gas industry, as being opposed to anything which smacks of unfair competition or as a 'knock' at your competition."

Expansion Valve

(Concluded from Page 14, Column 5)

vertising—or any form of merchandising activity—is working in a small retail store, Brisbane believes. Says he:

"It's a great education. It's the best possible merchandising training. Young store clerks learn about human nature, why people buy, or don't buy, what appeals to people, and how to cultivate them.

"Storekeeping also breeds self-respect and self-confidence in youth. I recommend it to all young men who would learn merchandising."

Advertising which is lost in the shuffle can't do much good, Brisbane declares. He cites the case of his friend, Whelan. The latter once heard Brisbane argue thusly:

"Whelan, suppose you've got something to sell, of which every man in this room is a potential buyer. Hence you want to address this group.

"You go to the doorman and ask how much it would cost to whisper to this audience.

"He replies, 'one hundred dollars.'

"You inquire what it would cost to shout at this audience.

"He replies, 'one hundred dollars.'

"Mr. Whelan, you would buy ten whispers!"

MAJESTIC DEALER TO INSTALL 19 APARTMENT UNITS

NORWALK, Conn.—The Norwalk Electrical Co., South Norwalk, has been awarded a contract to install Majestic electric refrigerators in a 19-apartment house for Mrs. Evelyn Hoyt, Danbury, Conn. John Glover is in charge of the work.

G. E. APPLIANCE, RADIO DEALERS MEET

NEW ORLEANS—General Electric appliance and radio dealers of Mississippi and Louisiana were introduced to new products with the exception of refrigerators at a fall sales meeting, Sept. 15, in the Roosevelt hotel.

Growing in Popularity every Month—

Copeland DEPENDABLE for Refrigeration DETROIT, MICH.
UNIVERSAL DETROIT, MICH
SERVEL Electric Refrigeration
JACK FROST REFRIGERATION Ltd. TORONTO-CANADA
Electric-Automatic REFRIGERATOR PHILADELPHIA
Zerozone Lifetime Refrigeration
JEWEL Refrigeration
DICELER DEISSLER MACHINE CO. GREENVILLE, PA. U.S.A.

100% VERTICAL SURFACE
U.S. PATENT No. 1,776,235.
LARKIN COILS

Standard Equipment with Prominent Manufacturers because every Test Demonstrates their Sales Building Features

Facts and Complete Data on Request

LARKIN-WARREN REFRIGERATING CORPORATION
Originators and Manufacturers
ATLANTA :: :: :: GEORGIA

Absopure DETROIT, MICH.
WILLIAMS ICE-O-MATIC REFRIGERATION BLOOMINGTON, ILLINOIS
KULAIR PHILADELPHIA, PA.
TRUPAR DAYTON, OHIO
ELECTRIC RICE REFRIGERATION
Modern
B-K, Junior New Brunswick, N.J.
Apex CLEVELAND, O.

Swope Explains 'Hard Times' Solution Plan in N. E. M. A. Address

(*Concluded from Page 1, Column 3*)

consideration in the formulation of the plan, Mr. Swope pointed out.

Workers' compensation, old age pensions, life and disability insurance, and unemployment insurance would provide the protection for labor.

Through Federal supervision—probably the Federal Trade Commission or a bureau of the Department of Commerce—the general public would be protected.

Benefits from Regulation

Employer and stockholder benefits would come from the regulation of trade practices and business ethics, the standardization of accounting and financial reports, as well as the information which the association would disseminate on volume of business, inventories, standardization of products, and stabilization of prices.

Declaring that five principles form the basis for his plan, Mr. Swope outlined as his first that "every effort should be made to stabilize industry, and thereby stabilize employment, to give the worker regularity and continuity of employment; and when this is practicable, unemployment insurance should be developed.

Organized Industry Leads

"Organized industry," he said in explaining the second principle, "should take the lead, recognizing its responsibility to its employes, to the public, and to its stockholders—rather than waiting for democratic society to act through its government.

"There should be standardized forms of reports so that stockholders may be properly informed," continued Mr. Swope for his third point.

"Production and consumption," he went on to explain in connection with the fourth principle, "should be coordinated on a broader and more intelligent basis, thus tending to regularize employment and thereby remove fear from the minds of the workers as to continuity of employment; as to their surviving dependents in case of death; and as to old age."

Refers to Laws

That "every effort should be made to preserve the benefits of individual originality, initiative, and enterprise, and to see that the public is assured that its interests will be protected," was the fifth principle commented on by the speaker.

It was generally understood by those present that, in admitting "some existing laws" would have to be modified to allow for the adoption of the proposals, Mr. Swope was referring to the Sherman Anti-Trust Laws.

Feel Security in Job

In taking up the benefits which would accrue to workmen as a result of the plan's operation, Mr. Swope pointed out that the workman would gain a sense of security in his job and would tend to remove the "40-year deadline" fear as he grew older.

He expanded on these worker benefits by explaining that the individual worker would get protection from workmen's compensation; from a life and disability insurance policy of which the face value would be equal to a year's pay and which the company and the worker would pay for on equal terms; and from a retirement pension which again the worker and the company would build up by equal contributions, the pension in each indivvidual case would amount to half regular pay.

The worker would be further protected by the fact that, should he lose his job as a result of a decline in business activity, he would receive up to $20 a week from a fund which he and the employer had built up equally. This fund would also be available for borrowing.

All of these benefits to the worker would provide for allowing him to transfer from one company to another, even from one industry to another, without forfeiting any of his rights in the funds to which he had contributed, unless the new firm to which he went were not a member of the association.

Federal Body in Charge

Mr. Swope also explained that a Federal supervisory body would have jurisdiction over the plans of the individual trade associations. Three members representing labor, and three appointed by the Federal board would comprise the general administrative group, and have the functions of interpreting the insurance and pension features of the plan, and supervising the trust funds.

Voicing his approval of the plan, Owen D. Young explained that while it would necessitate a voluntary surrender of a certain amount of individual freedom by the majority, the payment of some price could not be avoided regardless of what kind of plan were adopted.

"I welcome the plan," Mr. Young said, "not as a final answer to the problems with which it deals, but as a definitive proposal which will enable us to consider those problems inteiligently.

"Other industries may develop similar plans, and if they do, then for the first time we should have organized units of the several branches of industry out of which we could build a national industrial council.

Three Courses Open

"There are three courses open to us: "First, to do nothing. In that case, we should abandon the cry for economic planning. We should accept the advantages and disadvantages of the present system—and it has both.

"It is a system of intensified individualism which, because of its disordered action, necessarily brings great peaks of prosperity and valleys of depression.

"Second, to place upon industry itself the responsibility for the formulation and execution of a definite plan. This would pass the cost of protective insurance for employes to the public in the cost of the product in so far as it was not absorbed by better management. It would inevitably place on industry a high penalty for unbalanced economic conditions. Not only would capital in idleness have to be carried, but labor as well.

"Third, to acquiesce in the government providing the means for employe protection through the power of taxation. This carries only a political and not an economic check on such expenditures.

"Which shall it be?"

FROZEN FOODS ASSOCIATION TO MEET AT EXPERIMENT, GA.

EXPERIMENT, Ga. — The Frozen Foods Association of America will convene here for a one-day meeting Thursday, Sept. 24. C. T. Baker, secretary-treasurer of the organization, called the meeting.

SUBSCRIPTION ORDER

This offer expires Sept. 30, 1931

Electric Refrigeration News
550 Maccabees Building
Detroit, Michigan September.....1931

Gentlemen:

I want to take advantage of your special offer to send the new monthly publication, Refrigerated Food News, for one year to all new subscribers to Electric Refrigeration News (issued every week), also to all old subscribers who renew, or extend their subscriptions by sending remittance on or before Sept. 30, 1931, at the old rate of $2.00 per year (3 years for $5.00).

I understand that after this date it will cost me an extra dollar to get Refrigerated Food News, also that after Jan. 1, 1932, Electric Refrigeration News will cost $3.00 per year.

I am enclosing payment in the form of ☐ Check ☐ P. O. Order ☐ Cash

Name .....

Attention of
or Care of.....

Street Address .....

City and State.....

Note: This offer applies only to United States and possessions and countries in the Pan-American Postal Union. In all other countries except Canada, new and old subscribers of the paper may take advantage of the old rate of $2.25 per year to renew for Electric Refrigeration News only. Add $1.50 for Refrigerated Food News.

Note to Canadian subscribers: Sorry, but we have to charge you $5 per year for Electric Refrigeration News and $2 per year for Refrigerated Food News on account of the new tariff of five cents per copy.

9-23-31

Majestic Goes to Fair

Miss Gladys E. Ford, home economist, demonstrated Majestic electric refrigerators at Inter-State fair, Kankakee, Ill.

TEMPRITE SALESMEN SEEK PRIZES IN SALES CONTEST

(*Concluded from Page 1, Column 4*)

receive a prize of $50, while the salesman leading each group will receive $25. Any salesman who makes a sale or series of sales amounting to $200 will receive $10. This prize will be awarded for each $200 unit of sales volume.

Sales of all Temprite products, including parts and accessories, will count in the contest, while consignment sales will not be counted unless payment is received before the end of the contest.

A salesman from the Stratton and Terstegge Co., dealers at Louisville, Ky., was the first to report for a prize, having merited a $10 award for his work on the opening day of the contest, Ralph Douglas, advertising manager, reports.

Concurrently with the opening of the contest, the Liquid Cooler Corp. announces the appointment of the first district representative for Temprite coolers. M. R. Krader will act as "contact" man and engineering adviser for the mid-western district and will have offices in Indianapolis and Cincinnati.

Within a few weeks, Cleveland and Pittsburgh will have district offices and representatives appointed for the surrounding areas, officials state.

Some recent changes have been made in the construction of the larger model Temprite coolers, the shell having been changed from welded steel to heavy, drawn brass. The entire line of Temprite coolers are now constructed with a brass shell.

The design of the top plate has been changed to a flat surface top. When a multiple system is used for two or more beverages the new design allows the connections to be hidden.

The shells, which are subjected to pressure of not more than 25 lbs. under normal operations, are now being tested under 200-lb. pressures before shipment, Mr. Douglas states.

FRIGIDAIRE B. T. U. CLUB MEMBERSHIP GAINS 50%

(*Concluded from Page 1, Column 1*)

bers, and the third of supervisory members, such as sales supervisors, field men and district representatives of either distributing or dealer organizations.

Plans of the club this year call for additional honors for outstanding members of the club. Shortly after the end of the year a National B. T. U. Quota Club Business Congress will be held, at which the high members will meet with officials of the corporation to discuss plans and projects for the coming year. Three or more delegates will be selected from each distributing organization and will include a dealer, salesman and supervisory member. National officers will be chosen on the following basis: president, high man from high distributing organization; vice president, high man from second high distributing organization; cabinet members, high men from third to tenth high distributing organization; senators, high men from each of the remaining distributing organizations; representatives, all other members of congress.

Each delegate to congress will receive a special award, a watch, upon which will be engraved his name and rank and a year book will be published, with copies for each club member and de luxe editions for congressional members.

BUTTE KELVINATOR DEALER HOLDS 3-DAY EXHIBITION

BUTTE, Mont.—Kelvinator was recently presented to residents here in a three-day demonstration staged by the Montana Hardware Co., a department of the Anaconda Copper Mining Co.

The show was announced in a series of 12 newspaper advertisements and demcnstrations were given each morning and afternoon. Ben Hardin, retail store manager, Sales Manager Kerns, Mrs. A. T. Griffen, and Miss Griffen were in charge of the show.

REQUESTS FOR INFORMATION

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Refrigeration Parts

Query No. 524—"What concern in Chicago handles standard parts for electric refrigeration machines?"

Answer—Chicago Refrigeration Service, 217 E. Illinois St., Chicago.

Query No. 525—"What concern in or around New York can furnish parts for standard lines of refrigerators?"

Answer—Iceless Refrigeration Accessories, 2401 Chestnut St., Philadelphia.

Rubber Water Cooler

Query No. 526—"What company manufactures hard rubber water coolers for electric refrigerators?"

Meter Attachments

Query No. 527—"I would like to know the name of the company handling meter attachments for electric refrigerators."

Answer—Meterice Co. of America, Ltd., 300 W. Adams St., Chicago.

Query No. 528—"Where can I receive information about meter refrigeration shown in your June 17 issue?"

Answer—Same as Query No. 527.

Holmes Electric Refrigerator

Query No. 529—"Where can parts for the Holmes electric refrigerator be secured?"

Answer—Standard Steel Co., West Haven, Conn.

Room Coolers

Query No. 530—"What companies manufacture room coolers?"

Answer—Frigidaire Corp., Dayton; Kelvinator Corp., Detroit; Copeland Sales Co., Mt. Clemens, Mich.; and York Heating & Ventilating Co., 16th and Sansom St., Philadelphia.

Quick-Freezing Processes

Query No. 531—"We would like information on quick-freezing processes."

Answer—Directory of stories on processes appeared in September issue of Refrigerated Food News.

Export Figures

Query No. 532—"Will you kindly advise if you have a memorandum already prepared covering the latest annual export statistics by countries?"

Answers—These figures are regularly published in Electric Refrigeration News. Figures for all of 1930 published in January 14 issue.

Compressors Manufactured

Query No. 533—"Will you please advise us how many refrigeration compressors were sold in the commercial field during 1930?"

Answer—See directory issue of January 14th.

Manufacturing Figures

Query No. 534—"We would like information on the number of homes in the United States, the number or per cent of homes wired, number or per cent of homes equipped with electric refrigeration, and number of electric refrigerators sold in 1928, 1929, 1930, and 1931."

Answer—Figures for the past 10 years were published in Jan. 14 issue.

Heat Leakage

Query No. 535—"Please advise where we can obtain the new plastic material similar to Panelite or Bakelite, which is being used in the construction of cooling coils, especially those for maintaining temperatures for frozen meats and fruits. It is our understanding that the formula for this material was worked out by a gentleman in Wisconsin or Michigan. Frost is not supposed to adhere to the substance. It can be melted and molded around copper tubing in the form of a spiral coil.

ANSWERS TO BACK QUERIES

Query No. 480—"Would you furnish me with the name and address of the manufacturer producing a small machine making solid carbon dioxide?"

Answer—Carbo-Frost Co., 114 E. 25th St., New York City, and Solid Carbonic Co., 42nd St. and Lexington Ave., New York City.

Query No. 482—"Will you kindly advise us what companies manufacture perforated tubes to hold calcium chloride so as to prevent condensation between the glasses in a display case?"

Answer—Kason Hardware Corp., 61-67 Navy St., Brooklyn.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

POSITIONS WANTED

RADIO District Manager for national manufacturer ten years. Personal selling and sales directing Middle West, Chicago headquarters. Desirous entering refrigeration industry. Personal sales annually excess one million dollars. Possess complete picture refrigerator jobber and dealer setup Middle West. Qualified to execute all refrigerator and radio merchandising methods. Thorough knowledge of distribution thru jobbing channels. Available October 1st. Box 370.

SALES, DICTRICT AND BRANCH MANAGER with eighteen years' experience in sales, managing district sales organizations and branch operations of electrical appliances, with the past nine years devoted exclusively to electrical refrigeration sales, as sales manager, zone manager and branch manager for one of the largest manufacturers of electrical refrigerators, is desirous of making a connection. Address Box No. 369.

IF YOU are considering the manufacture of electric refrigerators or room coolers, I can help you on a consulting basis, giving you the benefit of an unusual combination of engineering, sales-survey and sales experience. H. G. McComb, 2342 N. Kedzie Blvd., Chicago, Ill.

CONNECTION with manufacturer or live distributor of electric refrigeration. Six years' experience with one of largest concerns in field. Past four years as sales engineer. Thoroughly familiar with installation and service, domestic and commercial sales, dealer organization, and wholesale work. Excellent references. Box No. 366.

ENGINEER, 12 years' experience, research, design, testing, shop practice. Available November 1. Box 367.

POSITION AVAILABLE

SERVICE MANAGER WANTED. Distributor of nationally prominent and long established domestic and commercial electric refrigerator, in city of about 250,000, with about seventy-five metropolitan and provincial dealers, requires service manager capable of reorganizing and directing installation and service department, stockroom, etc. Give full details of refrigeration and other service experience and references. Box 368.

EQUIPMENT WANTED

WE WILL BUY all types of electric refrigerators—new or used—any size—any quantity—Refrigerating Electric Service & Installation Co., 2257 White Plains Ave., Bronx, N. Y. Tel. Olinville 5-1329.

WESTINGHOUSE NAMES 11 RETAIL DEVELOPMENT MEN

MANSFIELD, Ohio — Eleven retail sales development men to assist distributors and dealers in developing their sales organizations have been appointed by George W. Moister, sales promotion manager of the Westinghouse refrigeration department.

The men will be under the direction of R. L. Sanner, director of retail sales development, refrigeration sales promotion.

The new men are Stanley Sorensen, Earl Morton, Gordon McLarty, Millard P. Boyle, James Cavanagh, William Howlett, George Constance, Ernest Lovegren, Miller S. King, John Birdoes, and J. A. Farrell.

FRIGID ZONE CREDITORS TO MEET OCT. 1

SEATTLE, Wash —A final meeting of the creditors of the Frigid Zone Mfg. Co. will be held in the office of Ben L. Moore, referee in bankruptcy, Oct. 1, for the purpose of considering and acting upon the final report and account of the trustee and to consider a proposed sale of the accounts receivable.

SALES MANAGER

Available November 1

Leaving nationally-known manufacturer of electric refrigerators

Knows what to do and how to do it

Address BOX No. 362
Electric Refrigeration News

In Two Parts

Engineering Section

Part Two

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office

The business newspaper of the refrigeration industry

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TWO DOLLARS PER YEAR

43 SERVICE MEN COMPRISE FORCE OF CHICAGO FIRM

Independent Company Holds Weekly School On Tuesday Nights

By John T. Schaefer

CHICAGO — Responsibility for the proper operation of all installations made by the Chicago Refrigeration Service Co. of this city, rests with the service man who works in the territory of that installation, under the arrangement made by George Monjian, president of the service organization.

This company does a considerable business in the rehabilitation of existing apartment house systems, in addition to installation work of new equipment. When an old system is revamped by this firm, the owner of the building contracts for one year's free service, and may order additional years of service for a flat fee paid to the service company.

When installation men are putting in new equipment or rebuilding an existing system which will come under the free service clause, the service man who covers that territory inspects the work, and cooperates with the installation men in completing the installation in such a way that it can be serviced easily.

Should a discussion arise between the service and installation men about some procedure on the job, Henry J. Schwartau, installation supervisor in charge of all field men, is phoned and settles all points of difference.

A total of 43 men are employed by the Chicago Refrigeration Service Co., eight working in the shop full time in repairing and rebuilding equipment.

Field men provide their own cars, being paid $55 a month for the use, and getting insurance coverage on any damage. Each service man is allotted a definite territory in the city, and under ordinary conditions, answers calls only within those boundaries.

In the office in Chicago's Near North

(Concluded on Page 4, Column 4)

ARMSTRONG CORK FORMS CALIFORNIA SUBSIDIARY

LANCASTER, Pa.—The formation of a new subsidiary of the Armstrong Cork Co., to be known as the Armstrong Cork Co. of California, has just been announced by officials of the parent company here. Plans have been completed for building a new factory on 60 acres of land at Bay Point, Calif., and steps are already under way for grading the property, installations of gas and water mains, roads, sidings and channel dredging.

When the new plant is complete, which will take several months, the company will transfer some of its machinery to it for the production of certain lines of floor coverings and other Armstrong products, according to the announcement.

ANNUAL N.A.P.R.E. CONVENTION TO BE HELD IN HOUSTON

HOUSTON, Tex.—Members of the National Association of Practical Refrigerating Engineers will gather here on Nov. 10 for a four-day session of the twenty-second annual convention and education exhibition of the society. Convention headquarters will be maintained at the Rice Hotel, while all sessions of the convention, as well as the exhibit will be held at the Houston Municipal auditorium, according to Edward H. Fox, secretary of the association.

AIR CONDITIONING INSTALLED IN NEW ORLEANS STORE

NEW ORLEANS, La.—The Krauss Co., one of this city's large department stores, recently installed an air conditioning system for the store, consisting of two cooling units which may be used independently or together, each at a cost of about $25 per day. The total cost of installing this giant cooling equipment was in excess of $60,000.

The equipment includes two York 10x10-ft. machines, directly connected to 125 hp. synchronous motors.

Lipman Engineers Design Small Machine

BELOIT, Wis.—To provide refrigeration for small ammonia installations where the regular Lipman condensing units were too large, the General Refrigeration Sales Co. has put into production a small model 41 machine, with a 1/3 hp. motor.

It has a capacity of about 1/6-ton of refrigeration, and is being used with 10-ft. top display cases, small grocer's cabinets, dry ice cream storage cabinets, small water and bottle coolers, and to refrigerate dispensing cabinets used in connection with Taylor freezers, according to W. C. Moore, advertising manager.

The new high side is intended for use chiefly with the "Discfin" evaporators just designed by engineers of the company, F. E. Dennison, chief engineer, points out. Because of its size, it operates best at a suction pressure not less than 35 lbs.

Although the new model is fairly compact, having overall dimensions of 22⅝ in. long, 14¼ in. wide, and 20¾ in. high, it has a shipping weight of 305 lbs. The 1/3 hp. motor drives the new 41 by a single V-belt at a speed of 450 r.p.m. It consumes approximately 0.27 kilowatts per hour, while the water consumption varies from 1 to 2 cu. ft. per hour, depending on the water temperature, Lipman engineers report.

The machine is of the same dome type, sub-cylinder design which characterizes the larger Lipman units, with the automatic water valve built into the equipment.

(Concluded on Page 4, Column 3)

DESPATCH OVENS DRY 600 MAJESTIC UNITS

CHICAGO—Six hundred compressor units can be dried out in each of the four dehydrating ovens which were installed by the Despatch Oven Co. of Minneapolis in the refrigeration factory of Grigsby-Grunow Co., here.

Machines to be dehydrated are assembled on small, four-wheel trucks, and conveyed about the plant in this manner until they are ready for installation in the cabinets.

When the condensing unit assemblies are complete, the trucks bearing them are transferred to a monorail conveyor which, by lifting tongs, conducts the units and truck complete to the entrance of the oven. Then they are loaded on a charging machine serving all four ovens.

The charging machine has two sections of track, one of which is stationary and at a convenient height for transferring trucks onto it from the monorail conveyor, and the other in line with it, but movable up and down so that while three units are being loaded onto the stationary section, the same number are being transferred from

(Concluded on Page 8, Column 1)

Re-elected

Louis Ruthenburg was re-elected chairman of the Refrigeration Division, N. E. M. A., last week in New York.

THREE REFRACTORIES USED IN ENAMEL FRIT

By R. A. Weaver
President, Ferro Enamel Corp.

PORCELAIN enamel, in composition, is very similar to ordinary window glass; except that instead of being transparent it is opaque. Moreover, it may be applied to metal.

The enamel is made of three groups of chemicals; refractories, fluxes, and opacifiers. In their process of manufacture the chemicals pass through three stages; the powdered form; in the smelter, they become moulten liquid; upon discharge from the smelter when it is directed into a tank of water, the moulten liquid shatters itself into millions of fragments, called "frit." Porcelain enamel is oftentimes spoken of as *frit*.

One of the most important factors in the manufacturing process of porcelain enamel is uniformity. Users of the porcelain enamels realize the importance of this factor.

There are three departments in the Ferro plants; the testing laboratory; the enamel development laboratory, and the smelting plant, or factory proper. In the testing laboratory, every shipment of raw material is tested with especially developed apparatus, for purity and uniformity.

For instance, Feldspar, in addition to a general quantitative analysis, is tested for uniformity of fusion range in a specially designed electric furnace, and microscopically analyzed for free quartz

(Concluded on Page 4, Column 3)

Safety Council To Hear Talks on Refrigeration

CHICAGO — Speakers and subjects they will treat in the meetings of the refrigeration section of the National Safety Council which meets at the Stevens Hotel here Oct. 12 to 16 have been announced. The refrigeration section will meet jointly with the chemical section on Tuesday morning, Oct. 13. All refrigeration meetings will be held in the afternoons.

In the combined session, presided over by John S. Shaw, both chemical and refrigerating engineers will speak. E. B. Besselievre of the Sanitary Engineering Division, Dorr Co., Inc., of New York City, speaks first, on "The Hazards of Chemical Wastes and Their Safe Disposals." Discussion will follow on chemical refrigerants.

Solid carbon dioxide will be treated in the next talk by D. H. Killeffer, public relations manager of the Dry Ice Corp., followed by Prof. Ward V. Evans, head of the Chemistry Department of Northwestern University on "Other Refrigerants."

Official business of the refrigeration section will start the morning of the second day, Wednesday, Oct. 14. General Chairman Vincent Wakefield will make his report, followed by a report of the nominating committee and election of officers.

A. H. Baer, president of the American Society of Refrigerating Engineers, will then turn the session to technical considerations with an address on "Safety in Design and Installation of Refrigeration Machinery." He will be followed by George B. Bright of Detroit, speak-

(Concluded on Page 8, Column 2)

BOSTON & MAINE CAR CONDITIONED BY ICE

NEW YORK CITY—Ice is being used as the refrigerant in a new coach of the Boston & Maine Railroad which made its initial run on Sept. 9 between Boston, Mass., and Troy, N. Y.

On Sept. 9 and 10, conditions in the coach were maintained 12° to 14° F. cooler than outdoor temperature and 14° to 19° F. cooler than conditions existing in the balance of the cars on the train, its operators declare.

The development was sponsored jointly by railroad officials, through the efforts of J. Clark Bennett of the Metropolitan Ice Co. of Boston. The engineering details were developed for the Metropolitan Ice Co. by the R. B. Engineering Corp. of New York.

The method adopted for cooling and conditioning the coach was somewhat different than present accepted practices in this field of work in that the medium of refrigeration is circulated ice water, cooled by being sprayed over ice carried in bunkers beneath the coach. A fairly uniform ice water temperature is

(Concluded on Page 5, Column 1)

MACHINE PLACED IN TOP OF NEW TRU KOLD UNITS

Montgomery Ward Uses Bush Condensers, Delco Motors

CHICAGO—Mechanical details of the new Tru Kold electric refrigerator which has just been offered to the Chicago retail trade by Montgomery Ward & Co., and will soon be sold in its branches throughout the country, have just been made public by officials of that company.

L. S. Keilholz, formerly chief engineer of Frigidaire Corp. and now general research manager for Montgomery Ward, was one of the engineers active in the selection of the Tru Kold design.

The new refrigerator is made in three sizes, with 4, 5½, and 7½ cu. ft. of storage capacities. The cabinet is of all-metal construction, with white Duco exteriors and white porcelain interiors. Steel frames are used, with a wood frame around the door. Legs 11 in. high allow a housewife to sweep underneath the refrigerator.

The machine compartment is located in the top of the cabinet, access to the compressor and removal of the unit being effected by lifting the cabinet top. Ventilation is accomplished through the back of the machine compartment. One-half inch Flaxlinum on the sides and top of the machine compartment tends to eliminate noise from the apparatus.

The compressor is of the two-cylinder opposed type, operated by an eccentric and one connecting rod, driven directly from a 1/5 hp., 1,725 r. p. m. Delco repulsion induction motor. The extended shaft of the motor forms the crankshaft of the compressor, according to engineers of the company.

The refrigerant, sulphur dioxide, enters the compressor from the suction line connected to the crank case, goes up through ports in the cylinder, and is discharged through a valve in the cylinder heads. The fan for cooling the equipment is mounted directly on the motor. Bush condensers and Ameri-

(Concluded on Page 5, Column 4)

OCEAN WATERS USED TO COOL YACHT CONDENSERS

NEW HAVEN, Conn.—(UTPS)—The cold waters of Long Island Sound are being used to cool condensers on refrigerating units recently installed on two yachts by the New Haven Electric Co., Copeland distributor for Connecticut and western Massachusetts. Copper tubing run along the keel underwater is employed.

The first installation of this type was made on the yacht "Carmenita," owned by Harold A. Lines, general manager of the New Haven Electric Co. A model I single cylinder, 1/6 hp. Copeland condensing unit was placed in the engine room, where the temperature often reaches 115° F., according to C. F. Gan-

(Concluded on Page 8, Column 4)

SOLID REFRIGERANT COOLS SHELLAC IN TRANSIT

NEW YORK CITY—Solid carbon dioxide has been found effective for cooling bleached shellac in transit, and preventing obnoxious "matting" or "blocking," of the material in warm weather.

The Mac-Lac-Kasebier-Chatfield Corp. of this city discovered that slabs of solid carbon dioxide placed in a barrel with the shellac to be shipped will keep the transit temperature low enough to hold the material in good condition.

Their reports show that temperatures at which their shipments were received varied from 2° below zero to 38° above —all of which is adequate cooling.

YORK ICE MACHINERY OPENS NEW OFFICE IN HARTFORD

HARTFORD, Conn. — (UTPS) — The York Ice Machinery Corp. has opened a new office and service station at 2045 Broad St., here. Roland S. Lockshire, formerly of New Haven, is in charge of this office, which absorbs the sales office formerly located at 23 Whitney Ave., New Haven. The New Haven service and stock room is now located at 65 Wallace St., New Haven.

Action on the Porcelain Firing Line

Workmen in the Ferro Enamel plant drawing moulten porcelain from the furnace.

Research on McCord Evaporator Shows 'K' Varies with Temperature Difference

By R. C. Doremus, George B. Bright Co.

THE problem of applying refrigeration to the cooling of refrigerator boxes, show cases, space cooling, air conditioning, etc., is one involving a knowledge of the characteristics of air and refrigerants. Many factors such as dimensions of the enclosure, its bunkering or baffling, air to be handled, velocity of air, total heat load, entering air temperature, final air temperature, temperature difference between air and refrigerant, and the coefficient of heat transfer from air to refrigerant, must be considered by the designer before a workable unit can be made and installed.

Inasmuch as the majority of commercial installations are of the gravity air circulation type, these remarks will apply largely to gravity.

The piping and tubing used in any installation serves two main purposes. First, as a conduit for the liquid or gaseous refrigerant, and, second, as so much evaporating surface. As a conduit, the piping or tubing must be arranged in proper sizes, with suitable bends and fittings, so that the velocity of refrigerant vapors will be within acceptable ranges and not cause excessive pressure drops through friction.

As to surface, different piping or tubing must be installed so that the total area of actual exposed surface will handle the heat load under the conditions of heat transfer coefficient and temperature difference that apply. It is a common failing for a contractor to install too small a surface on account of cost or available space, or to base his calculations on too high a value of "k" as the coefficient of heat transfer, and in either case the temperature difference between refrigrant and air must be increased for the product to equal the heat load in the well known thermodynamic formula, i. e.:

$H = A \times K \times (t_1 - t_2)$ where

H = Total heat load in B.t.u. per hour

A = Area of evaporator in square feet.

K = Coefficient of heat transfer in B.t.u. per hour per square foot per degree temperature difference.

t_1 = Temperature of air T°F.

t_2 = Temperature of refrigerant T°F.

A lower evaporator temperature may take care of such a condition of a small evaporator, but this means lower back pressure, which spells smaller compressor capacity—hence longer running time than calculated, coincident with higher power bills.

If it so happens that the compressor must run 28 hours a day with only 24 hours to do it in, there is no other alternative than to increase the surface to allow the low side to take care of the heat load at a faster rate, and thus allow the compressor to handle its capacity at a higher back pressure with a reasonable factor of safety, giving a good shut down period and coincident lower power bill.

Too much emphasis cannot be given to the use of a generous evaporator area, for it is far more desirable to have too much rather than too little from an operating standpoint. Also, it should be remembered that after an evaporator has been in operation for a year or more, its external surfaces become oxidized, while its internal surfaces become coated with oil and grease, and its heat transfer efficiency is impaired through natural use from that when new.

As far back as 50 years ago, efforts were made to increase surface while conserving on pipe by putting fins on pipe that was used for room cooling by ammonia or brine systems. Later, as the art of pipe bending was more fully developed, it was possible to bend evaporator coils of steel pipe in very compact designs at close centers.

Still later, with the advent of sulphur dioxide and methyl chloride systems, it was possible to replace the steel piping and fittings of the older ammonia systems with copper tubing.

In many instances, such as show cases and counters, the space allotted for an evaporator has become dwarfed through the efforts of the case designer to obtain more "pay" space, so that it has become necessary to eliminate brine tanks and expand the tubing surface in order to handle the total heat load in a confined evaporator space.

This has led to the more recent development of finned tubing which is finding popular use in both evaporator and condenser designs.

Finned tubing as made today, whether constructed of separate fins, or continuous fins either straight or spiral-wound, is the result of an effort to make an extended surface laterally in the same lineal dimension of tubing, and the resultant increase in operation in very little more space, at the same or cheaper cost, spells its success.

Those less familiar with finned tube operation may wonder why the fin is of such a benefit. In brief, the fins provide the necessary surface for gathering heat at a relatively low "k" value, and by conductance the heat is passed through the metal of the fin to the tube, provided the construction has a good metallic contact.

The heat transfer from the tubing to the refrigerant is at a more rapid rate than the same surface from air to fin; in fact, while it is not definitely established by these tests, the ratio probably would be of about 15:1 if it were possible to so construct a sample.

This would lead to difficulties on the air side however, for too many fins would require a very close spacing, which would be impractical from a standpoint of air flow and frosting. It may be compared to a steam boiler and heating system except that the flow of heat is in the reverse direction. A small grate area will accommodate a much larger steam surface, and this in turn a still much larger radiator surface.

The obvious reason for these ratios is the value of "k" at these various points. A similar advantage is taken in the engineering design of finned tubing where a large area of fin with a relatively low "k" value may be accommodated by a small tubing area with a relatively high "k" value.

The McCord Radiator & Mfg. Co. which has been known for a number of years in the manufacture of finned tubing and has established itself as one of the leaders in finned tubing for the automotive trade, recently made its advent into the refrigeration industry with the manufacture of finned tubing condensers and evaporators.

Before any endeavor was made to place these products on the market, it was decided to run a goodly number of tests of these units using sulphur dioxide, methyl chloride and ammonia as refrigerants, with various temperature differences, but all under actual operating conditions, in order to establish definitely their operating characteristics.

The George B. Bright Co., refrigerating engineers and architects, was engaged as consulting engineers in this development, and for a considerable volume of testing and research work.

To date, over 400 tests have been made, from which a wealth of operation information has been obtained, and from this data, tables of operating performance have been made which have been published and distributed in the recently issued McCord pamphlet on commercial evaporators.

From a construction standpoint, the McCord evaporator is made of copper tubing for use with such refrigerants as sulphur dioxide, methyl chloride, etc., where copper construction is satisfac-

(Concluded on Page 3, Column 1)

Evaporator Performance Chart

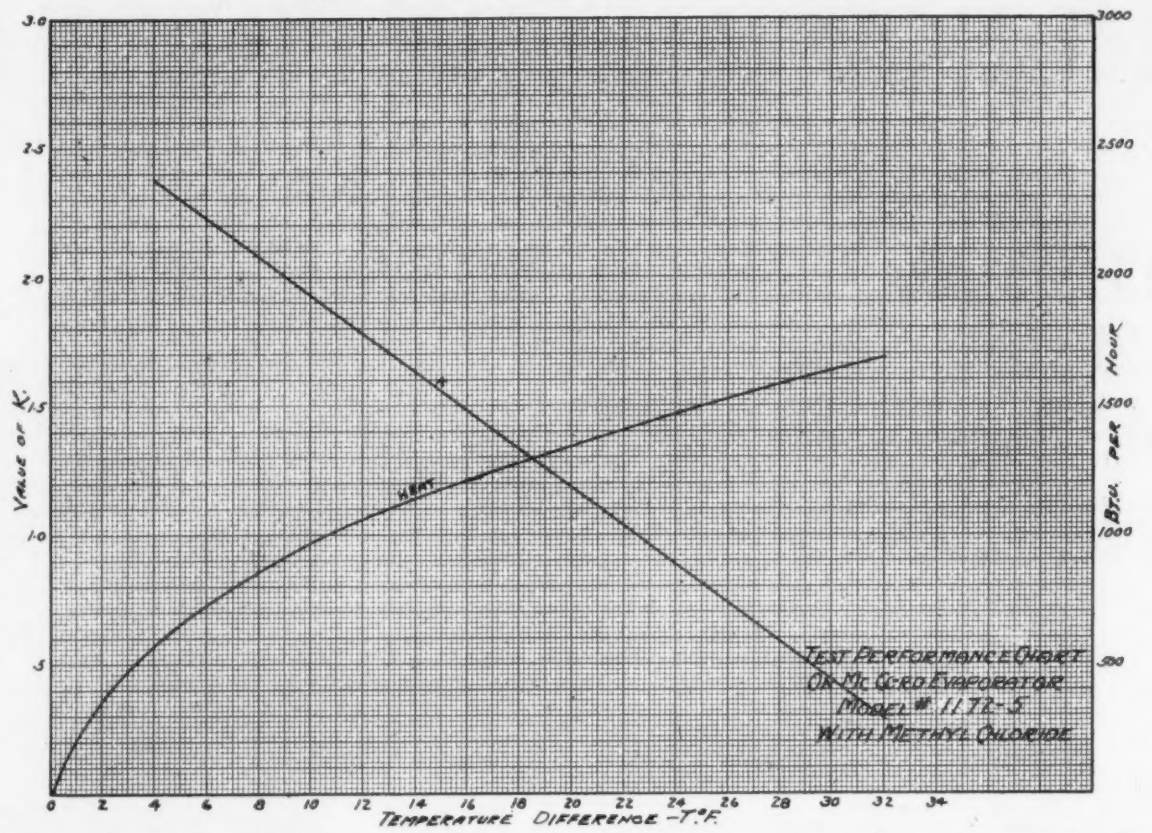
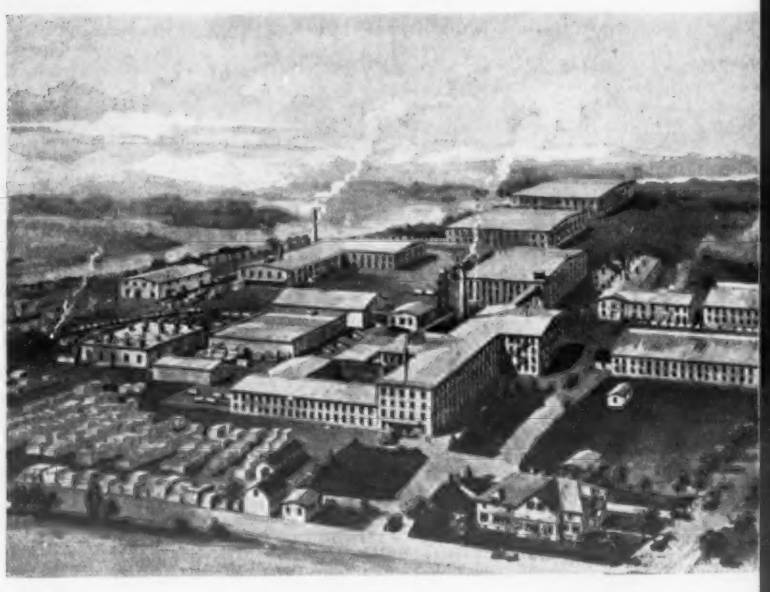


Fig. 1. The variance of 'K' in B. t. u. per hour per sq. ft. per degree temperature difference is expressed at the left scale. The right-hand scale shows heat transfer rates at various temperature differentials.

White Mountain Electric Refrigerator Cabinets are BONDERIZED



FIFTY-SIX years ago the Maine Manufacturing Company, of Nashua, New Hampshire, began making "The Box With a Chill In It"—the White Mountain refrigerator.

Each year has seen a sizeable increase in sales, and the company gives this reason (quoting from their catalog): "*By a method long ago established in the organization, the likes and dislikes of the buying public are interpreted in advance. Research means determining ahead of time . . . what is desired and what is not.*"

This policy is the keynote of efficient merchandising. *It resulted this year in the adoption of Bonderizing!*

The company found housewife-prospects registering a dislike for the chipping and peeling of ordinary cabinet finishes. They wanted the gleaming enamel to stay on; keeping the refrigerator beautiful by protecting it from destructive rust.

To insure White Mountain sales the housewives had to be pleased. To please them meant attention to metal finishing methods. The answer was Bonderizing, the chemical process that "holds paint to steel."

The Maine Manufacturing Company investigated thoroughly and found this process to be ideal from every standpoint:

A sales asset! Low cost for installation! Low cost for operation! Adaptable to straight-line production methods!

Bonderite — HOLDS PAINT TO STEEL

PARKER RUST-PROOF COMPANY
2197 Milwaukee Ave. - - Detroit, Michigan

The Bonderizing Process

BONDERIZING is in wide use by leaders in refrigeration, automotive, office supplies, electrical and other industries.

Articles to be treated are given a ten-minute bath in a solution of Bonderite powder and boiling water. They emerge chemically clean with metal surfaces changed to an insoluble phosphate having a texture that absorbs paint, enamel or lacquer upon application and securely anchors it upon drying.

Rust is defeated, since the finish thus forms a permanent protection for the underlying metal.

Comprehensive attention given to inquiries from interested manufacturers. Write for the booklet "Bonderite."

Quiet and Dependable
The special cradle mounting that identifies Leland motors built for refrigeration is part of the explanation of their quietness. The fact that they are built to closer tolerances and more rigid inspection than is usually observed in motor manufacturing, also helps to explain this essential characteristic — quietness in operation.
Successfully used in refrigeration—worth investigating.
The Leland Electric Co., Dayton, Ohio, U.S.A.
Canadian Address Toronto
Cable Address "Lelect Dayton"
Leland Motors

EVAPORATOR DESIGN, RESEARCH DISCUSSED

(Concluded from Page 2, Column 5)

tory, and, similarly, of steel tubing for ammonia installations.

The fins are either 3x6-in. or 6x6-in. sheet copper. These are perforated and assembled on two or four passes of tubing in ½-in., 1-in. or 1½-in. spacings as desired, to accommodate the varying requirements of cooler or freezer work. This assembly is made in such a manner as to give complete metallic contact between the fins and tubing, which is an important requirement of finned tubing design for any heat transfer purpose.

One unique feature is the unit construction in various lengths, whereby an evaporator may be made up at the factory, in the shop, or on the job by coupling various units together with union return bends. This is helpful to both manufacturer and contractor, inasmuch as only a small stock of units need be carried on hand to make up orders for various sizes and arrangements of evaporators. It is also an advantage to the contractor installing such equipment, for in many instances an evaporator must necessarily be assembled on the job on account of small clearances and cramped dimensions.

The George B. Bright Laboratory, in which these tests have been and still are being conducted, is equipped with precision instruments of both indicating and recording types for the accurate measurement of pressures, temperatures, air movements, etc.

The temperature control rooms in which tests are made, are controlled automatically for any desired room temperature by a combination of thermostatically operated electric heaters and refrigerating coils on a separate ammonia system piped through the laboratory for this purpose.

All temperatures are taken by electric resistance thermometers and recorded on a temperature recorder so that permanent records are made. All suction pressures of refrigerants are indicated on specially constructed mercury columns, and all higher pressures on indicating gauges that are carefully calibrated on dead weight testers.

It is probably needless to mention that care is taken to duplicate operating conditions in the placement of evaporators as well as their operation under test. In this way laboratory methods and equipment have been used for ease and accuracy of obtaining data, while the units have been operating as they would in the field, which, after all, gives a commercial value to such tests.

Inasmuch as the amount of liquid refrigerant evaporated is a direct measure of evaporator performance, specially constructed liquid receivers or weigh drums on scales, have been used to measure accurately by weight the amount of liquid fed to any evaporator during a test.

Care was taken in adjusting the rate of feed so that there was a constant superheat in the suction vapor of approximately 10° F. to be sure that all liquid credited to the evaporator was actually boiled off and not partly slugged over into the suction line.

All evaporators were operated for about an hour prior to the start of a test to insure a slight frost formation, and to obtain uniform conditions of operation. Any test period of at least three hours duration was thus given a running start and stop.

The data gathered in these tests has enabled the McCord Radiator & Mfg. Co. to publish some new and valuable facts concerning performance characteristics and capacities which were not known before. This type of information is different from estimated or calculated tables, and will be appreciated most by designers who are quite dependent on capacity tables for the wise selection of the proper evaporator for a given job, and should thus eliminate a considerable number of errors as well as lost time in the old "cut and try" methods.

Tried Steel, Copper

Copper has always been considered as a criterion in heat conductance, and hence is widely used in evaporator construction. Repeated laboratory tests have indicated the superior operation of finned evaporators of copper fin construction over that of evaporators using other metals. Possibly a part of this better performance should be credited to a more thorough metallic contact between the fins and tubing (as was the case in these McCord evaporators), although no endeavor was made to determine the relative weights of these two factors independently.

Regarding the metal used in the tubing, a comparison was made between a number of McCord evaporators, some constructed of copper tubing having a well thickness of .035 in. and some constructed as exact duplicates except with steel tubing of .035-in. thickness.

In this series of tests, no noticeable difference could be observed between the various evaporators, which would indicate, as has already been shown in other instances, that the material used in the tubing of finned evaporators has little bearing on the performance.

Due to Thin Tube Walls

This is probably due to the insignificant thickness of material in the wall of the tubing, and the more predominant factors of good metallic contact for conductance of heat from the fin to the tube on the outside and the emissivity or skin effect from the inside of the tube to the boiling refrigerant.

On account of this fact, McCord evaporators can be furnished in either copper or steel tube construction to meet demands of various refrigerants. Also, designers may use the same capacity tables inasmuch as their performance is the same.

The majority of tests run to date have been conducted with methyl chloride as a refrigerant. A series of tests have been conducted on the same evaporators using sulphur dioxide as a refrigerant, to determine whether the refrigerant used had any bearing on evaporator performance.

These showed that sulphur dioxide, for some reason, gave only 85% as much capacity as methyl chloride, maintaining the same temperature differences and gravity air velocities. This comparison has not been carried throughout the whole series of tests, on account of the vast number of evaporator combinations and arrangements, but a designer may safely plan on obtaining a capacity with these evaporators on SO2 systems which will be 85% as much as the capacity listed for CH3C1.

It is also interesting to note observations made regarding the value of "k" representing the coefficient of heat transfer, and expressed in B. t. u. per sq. ft. per hour per degree of temperature difference. The remark is often heard that an evaporator has a certain definite "k" value, but this appears to be veritable "bunk," because "k", which

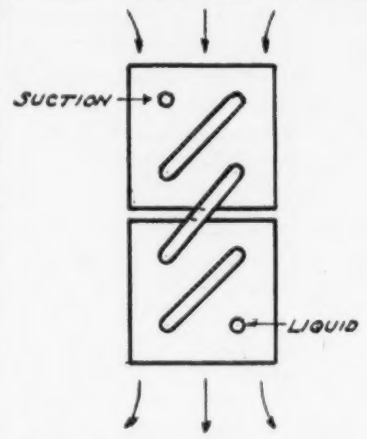


Fig. 2. Same air cuts two sections.

represents a constant in the usual formula, is actually a variable quantity.

Explains 'K' Variation

This fact is realized in considering air velocities, for example. For "k" may have a value of 2 or 3 with low velocities such as gravity air circulation, and 6 or 7 with high forced air velocities. This series of tests showed "k" values varying from .5 to 5.0 according to conditions, but in no case was it as high as 6, 8, or 10 as is claimed by some engineers working with this class of equipment.

Invariably, the higher values of "k" were indicated in tests where a small temperature difference, such as 5° F., was maintained, while the lower values were indicated where a large temperature difference, such as 30° F., was maintained.

Fig. 1 shows by graphs the variation in the "k" value and B. t. u. per hour capacity of a McCord evaporator which indicates this very clearly. At a temperature difference of 5° F. between the air and the suction vapor, the "k" value shows 2.3, while at 25° F. difference, it has decreased to .81—only 30% of the higher value.

It would appear that the value of "k" followed a linear equation. However, some later tests have shown this line to be a gradual curve—but in all cases it slopes in this general manner so that this one illustrated may be considered as typical of all McCord evaporators.

It will also be observed from Fig. 1 that the heat curve does not follow an arithmetical progression. At 10° F. difference, the capacity of this particular evaporator is indicated at 960 B. t. u. per hour, whereas at 20° F. difference it is 1,340. In other words, doubling the temperature difference does not double the heat capacity as might be casually expected.

This is probably due to the flow of air, rather than any function of the refrigerant, for doubling the temperature difference does not cause double the velocity of gravity air, nor the amount of work done, and hence the variation in the value of "k".

It was also noticed that in doubling the surface, it did not follow that double the work was done. This also may be

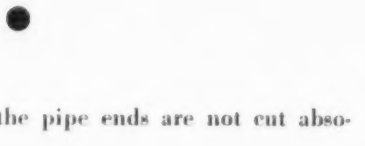


Fig. 3. Sections placed side by side.

explained by the passage of air through the evaporator. If, for example, a duplicate of an evaporator is added over the first one, as in Fig. 2, so that the air in cooling passes downward through two units instead of one, the amount of heat transferred per hour was about 170% that done in one evaporator.

This held true with slight variations throughout all sizes. Naturally, the pressure head of the liquid in a high evaporator raises the boiling pressure in the bottom tubes, so that the boiling at this point is not at the indicated pressure but at a higher pressure and, consequently, a higher temperature, which gives the effect of less temperature difference.

Also the column of air was cooled a certain amount by the upper evaporator, and this left a small temperature difference for the lower unit to work on.

Again, it was found from these tests that if we double the area by placing the units side by side, as indicated in Fig. 3, that there was 210% as much work done as in one unit. True, this is not a big increase over one unit, but it is a ratio of:

$\frac{210}{170} = 1.235$ or 23½% better performance than the very same surface placed vertically, as in Fig. 2.

This emphasizes the benefit of such an arrangement where preference may be made, and the basic principle of intercepting as much air as possible with the evaporator.

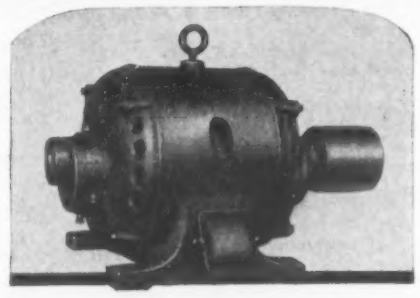
A broad, cold air stream will cause faster gravity air circulation than a narrow one, provided the temperature gradient is the same in each case, for eddy currents will diffuse the narrow stream quicker than the broad stream in gravity air circulation.

Further experiments are being conducted on other refrigerants, also on various gauges and spacings of fins for both cooler and freezer work, and the results of these tests will be available for publication at a later date.

These tests show the futility of basing calculations on any value of "k" without a knowledge of its variable characteristics under different conditions.

Accordingly, it is preferable for a designer to use capacity tables proven by test than to endeavor to calculate the required surface from an assumed value of "k", for if the assumption is 50% incorrect, the computation will have little value and will lead to disappointments in field performance.

THEY KEEP A-RUNNING



10 Horse Power Century Squirrel Cage Induction 3 Phase Motor

For Pumps and Compressors

The ability to withstand the effects of moisture and dampness is one of the features of Century Polyphase Motors which makes them "Keep a-Running" . . . The windings are thoroughly insulated and are then saturated with insulating varnish. This preserves the insulation and protects the windings and assures the continuous operation necessary in pump, compressor and similar installations where damp surroundings are present.

Century polyphase motors are built in standard sizes from ¼ to 250 H.P.

CENTURY ELECTRIC COMPANY
1806 PINE ST. - - ST. LOUS, MO.

40 U. S. and Canadian Stock Points and More Than 75 Outside Thereof.

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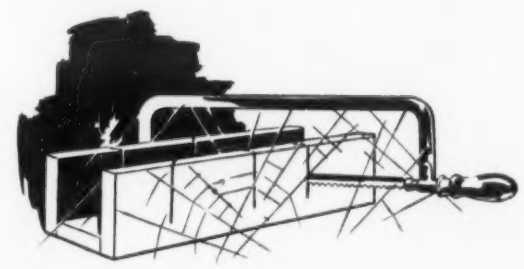

THERE ARE COBWEBS ON THE MITRE BOX

Flared fittings will leak if the pipe ends are not cut absolutely true in a mitre box.

In making a connection between Mueller STREAMLINE hard copper pipe and Mueller STREAMLINE fittings, straightness of the end-cut can be measured by the eye alone without danger of subsequent seepage at the joint. Pipe for these joints does not have to be cut in a mitre box. The unique design of the Mueller patented joint makes it stronger than the pipe itself. Expansion will not work it loose nor will vibration affect it. A quick visual inspection will tell whether or not the joint is tight.

Most refrigeration manufacturers use this patented joint; some use it exclusively.

If you are not thoroughly familiar with the advantages of STREAMLINE products in a refrigeration installation, write or wire at our expense.

We also manufacture a complete line of valves and fittings and can supply your every requirement.

Mueller Brass Co.

PORT HURON, MICHIGAN

MUELLER BRASS CO. OF CANADA, LIMITED,
TORONTO, ONTARIO

STREAMLINE Coupling
Copper to Copper
Patent 1,770,852. Patent 1,776,502.
Other patents pending.

STREAMLINE Tee
Copper to Copper to Copper
Patent 1,770,852. Patent 1,776,502.
Other patents pending.

STREAMLINE Cross
Patent 1,770,852. Patent 1,776,502.
Other patents pending.

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Interest in Air Conditioning

IT IS interesting to note the wide-spread public attention to air conditioning which applications in theaters and public buildings have caused, while real significance can be accorded the fact that further applications are being studied by a diversification of substantial interests.

Strides in industrial air conditioning were made as the result of demands of industries whose manufacturing processes required accurately controlled temperatures and humidities. Less has been done about human reactions to adverse climatic conditions because human organisms were usually able to withstand the ravages of excessive heat.

Now that the public has tasted of the comforts of scientific air cooling in places where air conditioning was desirable from a commercial standpoint, a pressure of public expectation is being felt by those whose working on this equipment for domestic and office applications. Time was when people were honestly surprised when a new scientific discovery began to influence their lives, but with increasing confidence in our research laboratories, public opinion is often ahead of actual progress in new developments.

Field in Well-Populated Buildings

Air conditioning for human comfort has been applied chiefly to buildings of dense population, where it was desirable for business reasons to attract people by pleasant air conditions. These buildings are usually well-constructed of good insulating walls. It is being introduced into railroad cars, and has found application in high-class offices where the cost of installation is justified by commercial advantages.

Expensive apartment buildings may be one of the next fields for air conditioning, for they combine human density and strong building construction with the economic considerations which tend to make it possible.

Household cooling presents more technical problems than large room cooling as applied in public auditoriums because of the greater heat leakage due to lighter building construction, more drafts and temperature changes from opening doors, and the difficulty of distributing air uniformly through a structure which is divided into a number of various-sized rooms. Moreover, this equipment must be designed to fit in with relatively low-cost manufacturing methods before it is expected to find common application.

Attracting Various Industries

The heating and ventilating industries have been keenly interested in the development of air conditioning, being impressed by the opportunities it presents through their regular work of installing equipment for making human life comfortable in cold weather.

The Pittsburgh laboratory of the American Society of Heating and Ventilating, operated in conjunction with the U. S. Bureau of Mines, is continually conducting research work in air conditioning, and has provided some valuable information, particularly on the physiological aspects of the subject.

Manufacturers of heating equipment have designed apparatus for installation in the basements of homes which cleans and distributes air into the house, controls humidities somewhat, heats in winter, and in summer cools to a degree which is limited by the coldness of the city tap water used. This equipment is still in the experimental stage, but does not come within the full definition of air conditioning which involves reduction of temperatures by refrigeration to more comfortable degrees, and the greater dehumidification possible with lower temperatures.

Electric refrigeration manufacturers have devised room coolers which will employ their condensing units. The National Electric Light Association has appointed a committee to study air conditioning from the standpoint of power consumption, while experiment stations of several universities, independent inventors and laboratories, and government research departments are giving considerable attention to the subject. Apparently, air conditioning is regarded as the next big development to employ refrigeration.

On Our Bookshelves

"VOLUME X, AUDELS NEW ELECTRIC LIBRARY"
Author: Frank D. Graham. Publisher: Theo. Audel & Co., 63 West 23rd St., New York City. Pages: 573. Price: $1.50. Date of Publication: 1931.

THE purchaser of the 12 volumes comprising "Audels New Electric Library" will find chapters on refrigeration and air conditioning treating these subjects in the same simple informative style which deals with the other applications of electricity.

To the professional refrigerating engineers, the refrigeration chapters will offer little that is new, but the student of electricity and refrigeration in its fundamental phases can learn the fundamental facts presented in terse paragraphs with numerous illustrations.

One chapter treats refrigeration in general, describing the various cycles, and fixing in the student's mind the various forms of energy encountered in refrigeration. The operation of machines is explained in the subsequent chapter, and functions of component parts.

In the chapter devoted to "domestic refrigeration," one notes that the author claims that the term "electric refrigeration" is misleading, on the grounds that electricity merely drives the compressor and doesn't enter the refrigeration cycle proper. Regardless of a general disagreement with this view, terms are relatively unimportant. And if the author hadn't remarked that 75% of household systems use *ethyl chloride*, the book would get a better break in this column.

The chapter gives brief, clear descriptions of the common types of electric refrigeration, however, and traces the absorption cycle as used by Electrolux. Typical service troubles are analyzed, and remedies explained.

Air conditioning systems employed in theatres and industrial processes are dealt with in the chapter on air conditioning. The author has accomplished very understandable definitions of air conditioning, humidity, dew point, and wet and dry bulb temperatures, and shows how to use the psychrometric chart.

GLEANINGS
FROM RECENT PERIODICALS

THE problem of providing a cleaner and cheaper method of keeping fish in good condition in retail fish shops has, for some time, been engaging the attention of refrigerating experts. The constant drainage of water and high cost of ice, and the fact that low temperatures cannot be obtained, has shown that there is a good field for the small electric refrigerator.

Modern hygiene demands that foodstuffs be kept cool and free from dust and other contamination which results if they are displayed in an open window, so that the trend of thought naturally led to refrigerated show cases.

From the shopkeepers point of view, however, the disadvantages of the usual refrigerated show case were very manifest. His contention was that the space required for the cooling coils, and the heavy frame work construction, takes up, in most cases, 1/4 to 1/3 of very valuable show area and the high cost of installation to give a useful amount of display.

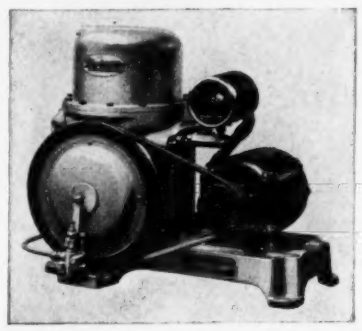
These disadvantages have been ingeniously overcome by the firm of R. Werner & Co. Pty., Ltd., who tackled the problem from a different angle and were able, after some experimenting, to get the required refrigeration without having a bulky cooling coil taking up valuable space. This has been done by cooling the marble, or terazzo, slab upon which the goods are displayed.

The overall thickness of the cooling apparatus is only, approximately, four inches, so that it is easily hidden by the usual framing around a counter and does not take up the space below the counter, which may be required for a further display or even storage space.

The main slabs or counters run practically the full length of the shop and are approximately 15 ft. long by 3 ft. wide. This marble is kept at approximately 30° F., and keeps all the fish in perfect condition. Over the slab is an ordinary glass show case with sliding back service doors for the convenient handling of goods; this show case is of cheap construction, and is simply to keep the fish free from flies, dust, etc.

In the two lower display windows are slabs cooled in a similar manner to the top one; each of these slabs can be turned off, if not required to be cooled, by means of a small valve located in a convenient position.—*Refrigeration, Cold Storage and Air Conditioning*, July.

New Lipman Midget



General Refrigeration Co. has designed a 1/3 hp. condensing unit.

SMALL LIPMAN UNIT BUILT FOR AMMONIA

(Concluded from Page 1, Column 2)

The motor is operated by a Time-O-Stat control which starts and stops it with temperature fluctuations. The refrigerator temperature can be held to within two degrees of the desired point, Lipman engineers claim, although a setting for a three or four degree range will contribute to more economical operation.

Suction and discharge valves are both of the poppet type, made from chrome nickel stainless steel. The Lipman design of submerged condenser is used, with the refrigerant flowing through seamless steel galvanized coils, and the cooling water passing through the surrounding dome.

A high pressure cutout stops the equipment in case of abnormal pressure, and starts it again when conditions are normal. Should this control device get out of order, the machine will stop, since its operation depends on the condition of the cutout. It is not necessary to break the line connections or to pump down the system, in order to remove the high pressure cutout, the engineers point out.

The compressor has a 1½-in. stroke, and a 1½-in. bore. Drop forged connecting rods, and carbon steel crankshafts, hardened, treated, and ground, are used in the new machine.

THREE REFRACTORIES USED IN ENAMEL FRIT

(Concluded from Page 1, Column 3)

content. Borax is analyzed for moisture content every 24 hours.

The development laboratory is equipped with small scale smelting plant and with application equipment, such as spray booths, pickling tanks and a furnace, electrically heated, 4x6 ft. in size. The laboratory also contains some out of the ordinary laboratory equipment, developed within the Ferro organization, for determining the commercial qualities of the various porcelain enamels.

For instance, for determining the flexibility, resistance to chipping, and covering power of an enamel, there is, respectively, the cross-bend, impact, and the reflectivity machine.

In the smelting plant there are two large automatic mixing machines; 12 smelters, and four tubular continuous driers. Smelters are gas fired, equipped with pyrometers and capable of smelting each, from one to four thousand pounds of porcelain enamel per batch.

The continuous driers are porcelain lined, and heated by recovered waste heat counter-currently to the wet frit input.

Attached to each drier is a wide, white canvas conveyor belt for inspection of frit. Each belt is equipped with a magnetic separator. Mixing and charging of the driers is done on a mezzanine floor, while the smelting and drying is done directly below.

After the raw chemicals are thoroughly mixed in the automatic mixing machines, they are discharged through a telescopic chute into the smelters below.

The smelters, during the time porcelain enamel has been in the mixing room have been brought up to heat. While the enamel is in them, the temperatures, conditions of combustion, and gas pressure must be carefully regulated, and a consistently predetermined schedule of operation maintained to meet with a time-temperature and gas analysis curve.

Consequently, the readings of these factors are taken every 15 minutes by the "record keeper" and the results are recorded by hand. He also keeps the foreman informed as to the progress of his smelts. Simultaneously the data is recorded on automatic recording machines. The two records are later checked against each other before the glass, or *frit* is released for shipment.

The time of smelting varies from two to six hours; smelting temperatures range from 2,000° F., to 2,500° F. Each smelt is carefully checked before it is discharged into the quenching tank.

Upon being discharged the enamel is allowed to drain before being conveyed to the rotary driers. After drying a sample is taken to the testing laboratory for checking as to finished appearance.

Here the enamel is applied to a 10x13-in. sheet, burned in a furnace and carefully inspected. No enamel is allowed to be shipped to the customer until its finished-appearance test sheet indicates perfect results.

CENTURY OIL BURNER SALES UP 35% OVER 1930

CEDAR RAPIDS, Ia. — Following questionnaire survey among its dealers, the Century Engineering Corp., oil burner manufacturer, estimates a sales increase of 35 per cent over 1930, according to M. D. McWilliams.

CHICAGO SERVICE CO. HAS COMPLETE SHOP

(Concluded from Page 1, Column 1)

side, stands a board with two hooks for each service man. When a service call comes in, the service despatcher fills out a card with all pertinent information about the call, gives it a number, and hangs it on the first hook. When the service man from the region of that call phones in for instructions, he is told about the call and the card is placed on the second hook for that man—which means the call has been forwarded to the proper service man.

Returning service men give a complete written report of the condition of the equipment before and after attention, and show what labor and material should be billed to the customer. Reports are filed away, so the date and nature of the last service call on each installation is easily ascertained.

Every Tuesday night the service men gather for the weekly school on service and installation methods, and to discuss general problems of refrigeration which affect their work. A model E Nizer machine has been mounted as a demonstrator to study condensing unit operation.

Holds Weekly Service School

Mr. Monjian believes that all his men are constantly meeting situations which offer experience of value to the rest of the force. Articles in ELECTRIC REFRIGERATION NEWS are frequently read, and discussed by the weekly assemblage, he said.

He reports a real enthusiasm among the men for the weekly meeting, and says that if they are working on a job when 6 o'clock approaches, the time to meet, they make every effort to arrange to leave the job, returning when the school is over.

A number of helpful methods have been devised in the shop during the 3½ years the Chicago Refrigeration Service Co. has been in the service business.

For instance, when a commercial installation job requires a shorter cooling coil that can be found in the stock room, a longer coil is cut in two shorter sections, and U-bends (made right in the shop) are soldered to the ends of the tubes to fabricate separate coils. This has been a fairly simple matter with the Bush condensers which are used considerably in the company's work, MR. Monjian says.

Discovered Ebulation

The difficulty of keeping oil out of domestic evaporators and preventing oil binding in them was quite a problem until some eight years ago, when MR Monjian noticed the accelerated boiling of water in a coffee pot when the coffee was put in the pot, and decided to apply the same principle to refrigeration.

He tried carpet tacks and various other means of "ebulating" the evaporator, and through experimentation now finds that rattan sticks forced into the tubes will hasten evaporation of sulphur dioxide and prevent oil conditions.

The ebulating action results from roughened surfaces which offer many small points for the higher pressures of the liquid refrigerant in the evaporator to boil from, he explains.

The company does a substantial business in the servicing of "orphan" machines, and maintains a stock of parts for replacements in the Champion Electric refrigerator and others. With a shop equipped with special machinery (chiefly designed and built there) the workmen are able to make many of the parts needed for service work. Thus, they make their own discharge valve plates for the Rice machine.

Gas Room Totally Enclosed

The shop's gas room, where all machines are charged with their respective refrigerants, is entirely enclosed, with controls on the outside so that in the event of an accident, the men can retreat from the room, close it, and turn off the supply of gas, while the exhaust fan conducts the escaped gas to the outside.

Provision is made for running in practically any make of rebuilt household compressors. Stands have been constructed for four standard makes, while an adjustable running in stand can be made to hold a variety of sizes.

In order to employ production methods in econditioning equipment, it is run through the shop in batches. Thus, when several old evaporators have accumulated, they are all unsoldered at one job, re-soldered, washed in gasoline and carbon tetrachloride, and stocked for future use. Before going into an installation, they are baked and evacuated.

BOSTON & MAINE CAR CONDITIONED BY ICE

(Concluded from Page 1, Column 4)

maintained irrespective of the amount of ice in the bunker, engineers claim, and any refrigerating tonnage rate demand is automatically supplied by the ice melting rate adjusting itself to the load, however it may vary.

The method of cooling, dehumidifying, and circulating the cooled air in the coach is as follows: Ice water is circulated by means of a small pump beneath the car through a form of surface

The arrow shows the location of ice bunkers on the B. & M. car.

cooler. These "radiators" are light in weight, compact, and offer comparatively large surface areas.

The radiators are located at both ends of the car and are concealed above a drop ceiling which is below the main roof deck. Above this same drop ceiling on each end, are concealed the pressure blowers for air circulation.

Air is drawn from one side of the car and through the radiators, which not only cool but dehumidify the air because of low air velocities, compact extensive surfaces and low temperatures, whereby condensation is drained off.

The air drawn through the radiators is discharged at high velocity from a louvred outlet adjacent to and lower than the inlet register.

This high velocity outlet air is picked up by the suction inlet directly opposite on the other end of the car. By proportioning the velocities and temperatures involved, there is set up on the ceiling two passing high velocity streams of air, which are maintained in their respective paths of travel by blowing air to a suction intake.

Cooling of the air at the normal passenger level occurs by the settling downward of heavier cooled air, and the rising of warmed air up into the overhead mild cyclone. Engineess maintain that the car is free from draughts.

At the ends of each car, and floating freely on the radiator and fan chambers, compact cloth felt air filters are connected directly to the outdoors. Because of design proportions, a slight static air pressure is maintained in the car.

This static pressure finds relief through window and door crevices. This loss of air is replenished by fresh air admitting itself to the system through the filters.

If an extraordinary amount of fresh air is desired, the operation of existing car exhaust ventilators along the roof allows air to escape from the car, and a fresh supply enters through the filters.

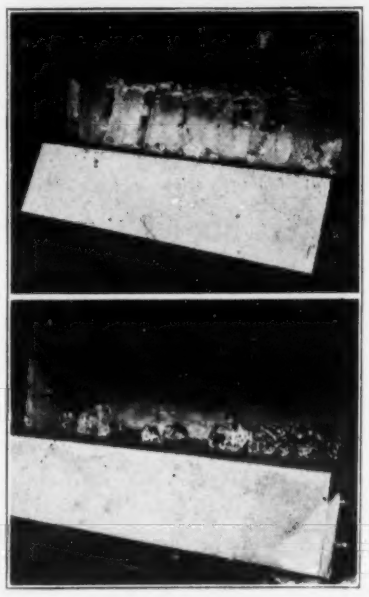
"It was found that the maintenance of a slight static pressure in the coach created enough losses through crevices to keep the air in the car fresh and sweet with six passengers out of 20 smoking," railroad officials say.

The slight static pressure against all crevices naturally prevented the infiltration of dirt and dust, which was hardly in evidence even after five hours of running travel, they report.

The installation is automatic in so far that the use of dampers, or refined controls are dispensed with. However, a new supply of ice is placed in the bunkers at the start of each run.

The entire system operates with less than two connected horsepower, and materially less than that amount is con-

Before and After



Top view shows ice bunker when a run is started. Lower, after a trip.

sumed or required, according to engineers of the R. B. Engineering Corp. "Over a period of two days, 11 hours of running in the sun with a range in temperatures outdoors of 65° F. wet and 77° F. dry to 75° wet 94° dry, the average refrigeration tonnage rate required was 4.3 tons, or equivalent to the melting of about 350 lbs. of ice per hour," they say.

Temperatures in the railroad coach were made to vary through manual control from 57° wet 65° dry to 65° F. wet, 80° dry. Tests showed that the car could be cooled 1° F. per minute and warmed up at about the same rate.

Montgomery Ward Unit Specifications

(Concluded from Page 1 Column 5)

can Radiator expansion valves are used in the new machines.

The evaporator consists of a direct expansion coil soldered to the outside of a sheet metal tray enclosure. The coil passes around the outside of the tray compartment, but not between the trays, since they are supported by a bead running lengthwise along the evaporator. The evaporator is supported from the top of the cabinet by steel cadmium-plated hangers.

Ice trays are of aluminum, containing 21 cubes each. The 4-cu. ft. refrigerator has three trays, making 63 ice cubes at once; while the 5½-cu. ft. job has five trays offering 105 cubes; and the 7½-cu. ft. unit has six trays, in which 126 ice cubes can be made.

The Ranco cold control switch appears in the front of the machine compartment, with the defrosting switch on the same panel. Ice cubes can be frozen in 2½ hours with the cold setting, Montgomery Ward engineers claim. Insulation consists of 3½ in. of Balsam Wool in the walls of the cabinet, with 4 in. of the same insulant in the doors and top, sealed in waterproof paper.

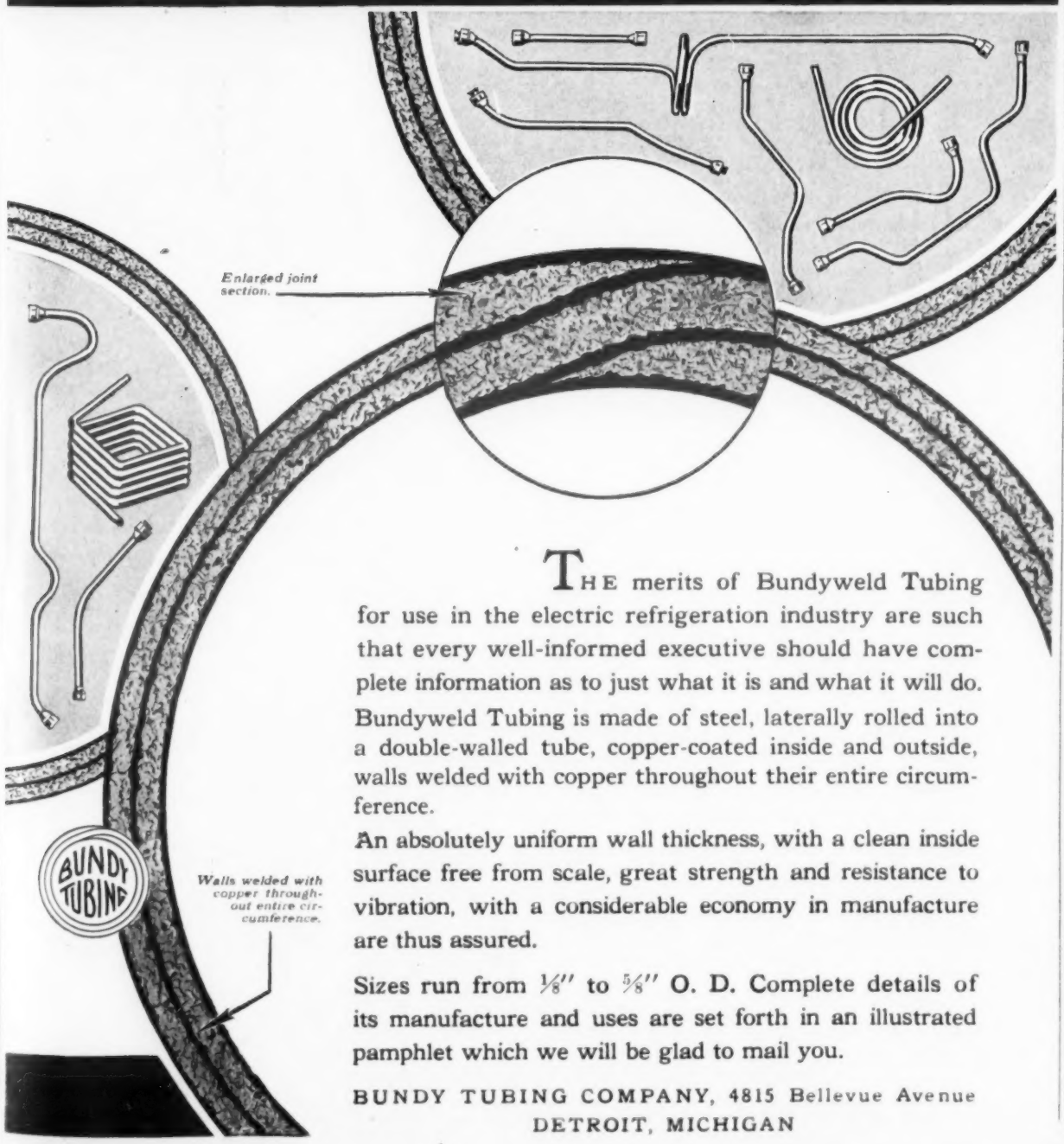
Shelves in the food compartment are of the flat wire construction, hot-tinned, and supported by wire hooks on the interior walls. The porcelain enamel defrosting pan is supported under the evaporator of each refrigerator. Four inches of black Bakelite trim line the door opening. Hardwares are chromium-plated bronze castings.

G. E. WATER COOLERS PLACED IN RAILWAY PLANT

BIRMINGHAM, Ala.—(UTPS)—Nineteen General Electric water coolers, models DB-3, have been installed in the plant of the Tennessee Coal, Iron and Railway Co., here. The sale was handled by Maddox Electric Sales Co.

Sulphur Dioxide!
For Direct Charging
Every Container Analyzed
"Pure" Bone Dry . . . Cylinders 2 to 150 lbs
ANSUL Chemical Co MARINETTE, WIS
Also . . . Ton Drums-Tank Cars

BUNDYWELD Tubing



THE merits of Bundyweld Tubing for use in the electric refrigeration industry are such that every well-informed executive should have complete information as to just what it is and what it will do.

Bundyweld Tubing is made of steel, laterally rolled into a double-walled tube, copper-coated inside and outside, walls welded with copper throughout their entire circumference.

An absolutely uniform wall thickness, with a clean inside surface free from scale, great strength and resistance to vibration, with a considerable economy in manufacture are thus assured.

Sizes run from ⅛" to ⅝" O. D. Complete details of its manufacture and uses are set forth in an illustrated pamphlet which we will be glad to mail you.

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Now . . . American
CASTINCOIL
Domestic Units
in 2-, 3- and 5-tray units

Three sizes of American Castincoil Domestic Units now are available to meet the demands of leading refrigerator dealers for quick-freezing of ice cubes, efficient cooling and durability.

All three units are made of aluminum cast around a copper coil assuring rapid refrigeration and long service. All are designed for individual units in connection with American Automatic Expansion Valves . . . for multiple systems with American Thermostatic Expansion Valves. They can be installed easily in old or new boxes.

The 2-tray unit is for boxes of 4, 5 and 5½ cubic feet: 3-tray and 5-tray for boxes of 7 to 9 cubic feet. Each tray has a capacity of 28 cubes. Trays are furnished with aluminum grids or Flexo-trays. A feature of the 3- and 5-tray unit is a removable shelf which permits the insertion of a deep tray or the storage of ice cream or other frozen foods.

A New 5-Tray American Castincoil Domestic Unit with American Automatic Expansion Valve

3-Tray Castincoil Unit

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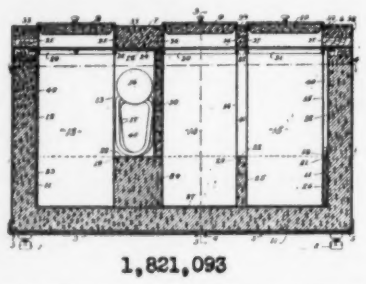
REVIEW OF LATEST PATENTS GRANTED

ISSUED SEPTEMBER 1

1,821,093. REFRIGERATING CABINET. David John Greiling, Cleveland Heights, Ohio, assignor to The Bishop & Babcock Mfg. Co., Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 11, 1927. Serial No. 232,558. 1 Claim. (Cl. 62—75.)



1,821,093

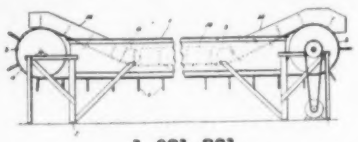
In a refrigerating cabinet for refrigerating the contents of ice cream cans or the like, an outer and an inner tank portion, the inner being adapted to be telescopically nested in the outer and adapted to be removed therefrom as a unit for inspection purposes, the outer tank portion comprising an outer and inner bottom all in spaced relation and a plurality of outer and inner side walls in spaced relation, the space between the walls and between the bottoms being filled with heat insulating material; and the inner tank portion comprising a bottom wall and a plurality of side walls, a plurality of receptacles each adapted to receive a can, the receptacles being disposed within the inner tank portion in spaced relation to each other and to the side walls of the tank, a horizontal partition surrounding the receptacles and dividing that portion of the space within the inner tank portion and outside of the receptacles into upper and lower fluid tight compartments, the upper compartment being adapted to contain a fluid refrigerant and the lower compartment being adapted to be filled with heat insulating material.

1,821,106. METHOD OF PRESERVING FOOD PRODUCTS. Edward Milani, San Francisco, Calif. Filed Jan. 12, 1925. Serial No. 1,925. 2 Claims. (Cl. 99—8.)

1. The method of storing fresh fruit and vegetable food products against normal deterioration which consists in depositing the same within a container, drawing a vacuum within the container, admitting an inert gas into the container, sealing the container with the gas contained therein against the admission of the outside air and permitting the product to remain therein until about the time when the same generates a gas within the container, and then puncturing the wall of the container to release the generated gas contained therein and permitting said puncture to remain open.

1,821,201. MEANS FOR WASHING AND BRINING FISH. James Joffree Barry, Gloucester, Mass., assignor, by mesne assignments, to Frosted Foods Co., Inc., Dover, Del., a Corporation of Delaware. Filed Mar. 17, 1927. Serial No. 175,971. 4 Claims. (Cl. 17—6.)

1. An apparatus for brining fish, comprising a tank, a continuous conveyor having one reach thereof extending downwardly thereinto and extending in a substantially horizontal direction throughout a portion of the tank and in spaced relation from the bottom thereof, and a plurality of relatively spaced and upwardly extending flights carried by the conveyor and extending trans-



1,821,201

versely thereof into close proximity to the opposite sides of the tank, the conveyor and flights being of perforate construction whereby brining liquid and relatively small particles can pass therethrough and the flights being of a height to permit a substantial brining depth of liquid on the conveyor without entirely submerging the flights.

1,821,211. DOUBLE PASSAGE FILTER AND CLOSURE FOR THE SAME. Charles H. Gagen, New York, N. Y., assignor by mesne assignments, to American Air Filter Co., Inc., Louisville, Ky., a Corporation of Delaware. Filed June 20, 1928. Serial No. 286,771. 18 Claims. (Cl. 183—79.)

1. In a filter the combination of a filter unit having its opposite ends open to permit passage of a cleansing medium therethrough during cleaning operation and in a direction at right angles to the normal direction of an air stream therethrough during filtering operation, and movable means for closing said open ends during normal air filtering operation.

1,821,287. AMMONIA CONDENSER. Jacob Henry Beckman, Oakland, Calif. Filed Dec. 17, 1929. Serial No. 414,704. 4 Claims. (Cl. 257—35.)

1. In an ammonia condenser, a plurality of heat exchanging tubes, means causing a flow of cooling liquid over said tubes, baffles directing the liquid toward the tubes, means for causing a current of air to pass over said tubes in a counter direction to the cooling liquid, and baffling means for causing the current of air to impinge against the tubes and the first named baffles.

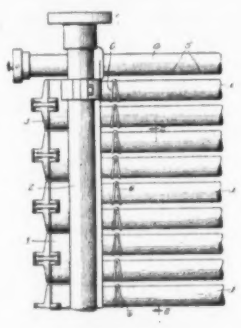
1,821,297. COOLING, HEATING, VENTILATING, AND HUMIDIFYING SYSTEM. Arthur Driscoll, Tucson, Ariz. Filed Oct. 1, 1928. Serial No. 309,429. 1 Claim. (Cl. 257—9.)

Air treating apparatus comprising a casing, having an air inlet and an air outlet at opposite ends, partitions within the casing dividing the interior thereof into a plurality of compartments and having central openings, a shaft passing through the casing, fans rotatable with the shaft, and associated with the inlet and outlet of the casing and the openings of the partitions, a flared baffle adjacent the inlet to spread the air in all directions toward the wall of the casing, similar baffles adjacent the several partitions, and an air treating unit in each of said compartments.

1,821,378. KAPOK PRODUCT AND PROCESS OF MAKING THE SAME. James E. Dillard, Midlothian, Tex. Filed Feb. 15, 1930. Serial No. 428,686. 8 Claims. (Cl. 154—33.)

1. The process of working kapok facing against and into permanent association with a backing fabric characterized by moving the kapok facing and backing between pressure elements one of which is heated, the heated pressure bearing directly against the kapok.

1,821,489. LIQUID COOLER. George W. Williams, Oak Park, Ill., assignor to The Creamery Package Mfg. Co., Chicago, Ill., a Corporation of Illinois. Filed Jan. 29, 1931. Serial No. 512,013. 4 Claims. (Cl. 257—183.)



1,821,489

1. In a cooler having a series of tubes arranged in vertically spaced relation and adapted for the flow thereover of liquid, the combination therewith of flow diverting members mounted one above another about the respective tubes, said members having narrow upper edges and downwardly divergent lateral surfaces whereby liquid flowing downwardly over the surfaces of said tubes at either side of said members is prevented from passing to the other side of said members.

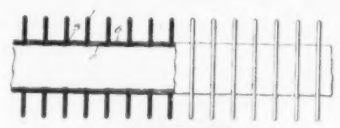
1,821,508. REFRIGERATING METHOD AND MACHINE. Frazer W. Gay, Newark, N. J. Filed Mar. 27, 1928, Serial No. 265,134. 18 Claims. (Cl. 62—115.)

1. The method of transferring heat from a cold body to a relatively hot body, consisting in alternately decreasing and increasing the pressure of a refrigerant in contact with both said cold body and said hot body so that said refrigerant in the form of a liquid at a low temperature contacts only with said cold body and boils so as to remove heat from said cold body, and said refrigerant in vaporous state contacts only with and condenses upon said hot body so that the refrigerant gives up its heat to said hot body.

1,821,509. THERMAL REFRIGERATOR. Frazer W. Gay, Newark, N. J. Filed Aug. 14, 1928. Serial No. 299,548. 3 Claims. (Cl. 62—118.)

1. In a thermal refrigerating device, a plurality of chambers mounted to rotate about an inclined axis and each chamber containing a refrigerant and so arranged as to empty its entire contents into the lowest portion of the chamber at one point of the rotation, said chamber having two other portions adapted respectively to condense and evaporate said refrigerant during the remaining period of rotation.

1,821,702. CONDUCTOR FOR HEAT EXCHANGE APPARATUS. Ernest B. Freeman, Newton, Mass., assignor to B. F. Sturtevant Co., Hyde Park, Mass., a Corporation of Massachusetts. Filed Dec. 24, 1926. Serial No. 156,902. 4 Claims. (Cl. 257—262.)



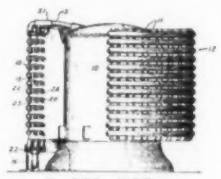
1,821,702

1. A conductor for heat exchange apparatus comprising a metal tube, discs secured to the tube for providing an extended surface, and a tough, continuous and adherent coating of lead on the interior and exterior of the conductor and forming a deposit of greater thickness at the junction of the tube and discs than elsewhere.

1,821,754. AIR COOLED CONDENSER FOR REFRIGERATING SYSTEMS. Kenneth H. Huyette, Bluffton, Ind., assignor to General Electric Co., a Corporation of New York. Filed Apr. 22, 1930. Serial No. 446,387. 5 Claims. (Cl. 257—36.)

1. An air-cooled condenser for refrigerating systems including a plurality of coils, said coils being spaced apart transversely of the flow of air and decreasing in transverse spacing from one end to the other.

1,821,765. CONDENSER FOR REFRIGERATING SYSTEMS. Delbert F. Newman, Schenectady, N. Y., assignor to General Electric Co., a Corporation of New York. Filed Apr. 22, 1930. Serial No. 446,388. 6 Claims. (Cl. 257—36.)



1,821,765

1. A condenser for refrigerating systems including a support having an open slot varying in width, and coils of different sizes each having a plurality of turns and engaging the side walls of said slot to retain them in spaced relation.

1,821,812. ABSORPTION REFRIGERATION APPARATUS AND SYSTEM. Thomas K. Marbury, Meridian, Miss. Filed April 21, 1928. Serial No. 271,852. 7 Claims. (Cl. 62—5.)

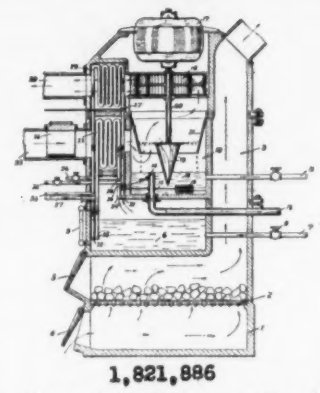
1. In an absorption refrigeration apparatus, the combination of a pair of alternately acting combined generators and absorbers each containing an ammonia solution, a coil within each of said combined generators and absorbers, closed circuit means for passing a heating fluid through said coils in alternation, open circuit means for passing a cooling fluid in the opposite direction through said coils in alternation with the flow of the heating means, a single thermostatically operated valve means for each combined generator and absorber for controlling the flow of said heating means and cooling means, a condenser receiving ammonia gas driven off from said combined generators and absorbers in alternation, an expansion coil located within a refrigeration chamber, an expansion valve between the condenser and expansion coil, and means for returning the expanded ammonia gas to the combined generators and absorbers during cooling thereof and diffusing the gas into the exhausted solution.

1,821,846. COOLER. Harry L. Miller, Chester, Pa. Filed Nov. 15, 1930. Serial No. 495,968. 2 Claims. (Cl. 257—255.)

1. A cooler comprising a vertical series of horizontally disposed cooling tubes provided near each of their outer ends with inwardly and outwardly inclined guard flanges which are integral with said tubes.

1,821,886. HEATING AND HUMIDIFICATION SYSTEM AND APPARATUS. Walter L. Fleisher, New York, N. Y., assignor to The Cooling & Air Conditioning Corp., New York, N. Y., a Corporation of New York. Filed Aug. 28, 1928. Serial No. 302,519. 4 Claims. (Cl. 261—10.)

1. Apparatus of the character described comprising an inlet duct to the apparatus, a dehydrator in the duct, tempering coils for initially changing the temperature of air entering the apparatus, means for humidifying said air, means for discharging said air through a second set of tempering coils,



1,821,886

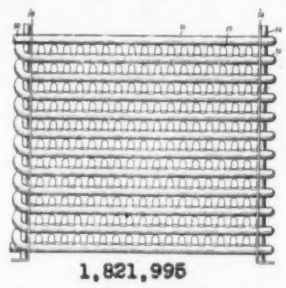
said coils and humidifying means being automatically controlled to regulate the wet and dry bulb temperatures of the air conditioned by the apparatus, means under summer operating conditions for reducing the temperature of the air entering the apparatus and saturating it at a desired wet bulb temperature, and means operable under winter operating conditions for raising the temperature of incoming air by a medium other than that used for lowering the temperature under summed operating conditions, said heating and cooling media circulating in the same apparatus.

ISSUED SEPTEMBER 8

1,821,934. HEAT INTERCHANGER. Harvey Feldmeier, Little Falls, N. Y., assignor, by mesne assignments, to Cherry-Burrell Corp., Wilmington, Del., a Corporation of Delaware. Filed Dec. 27, 1926. Serial No. 157,126. 20 Claims. (Cl. 257—247.)

1. A heat interchanger comprising a conduit having a plurality of stretches of tubes connected in series and draining by gravity towards one end of the series, each tube having therein a smaller tube in spaced relation to its walls, the smaller tubes being also connected in series, whereby separate fluids may be circulated through the inner and outer tubes, inlet and outlet connections to the upper and lower ends respectively of one of said tubes for circulating downwardly therethrough a fluid to be treated, means for circulating a heat transfer fluid upwardly through the other of said tubes, and means for admitting to said heat transfer fluid, at a selected point in its circulation through said tubes, further heat transfer fluid so as to obtain the desired temperature of the said circulating heat transfer fluid in different stretches of the tubes.

1,821,995. REFRIGERATING APPARATUS. Charles R. Wayman, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Mar. 28, 1929. Serial No. 350,693. 6 Claims. (Cl. 257—36.)



1,821,995

1. A device for a refrigerating system comprising a continuous tube formed into a plurality of loops having extended portions of the tube in parallel relation, and separate fin elements between and parallel to said portions, supports for said device at the ends of the loops, said supports spacing said loops and locking said fin elements between the portions of the tube.

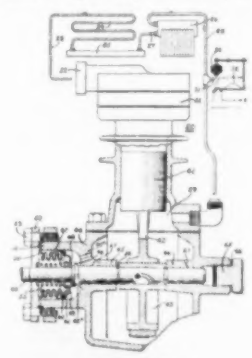
1,822,003. REFRIGERATING APPARATUS. Frank W. Andrews, Fort Wayne, Ind., assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Dec. 31, 1927. Serial No. 243,965. 6 Claims. (Cl. 62—95.)

6. A refrigerating device for mechanical refrigerators comprising a container, a support for an ice tray within said container, a cooling element within said container, fins connected with said support and extending in close proximity to the cooling element without touching the same.

1,822,013. UNIT FORMED PARTIALLY OF FIRED CERAMIC MATERIAL. Lloyd G. Copeman, Flint, Mich., assignor to Copeman Laboratories Co., Flint, Mich., a Corporation of Michigan. Filed Jan. 21, 1928. Serial No. 248,314. 12 Claims. (Cl. 62—95.)

1. A refrigerating apparatus, comprising a cooling unit formed of stone, one or more of the exposed surfaces of said unit being formed of a fired ceramic material, a refrigerant conducting coil positioned in heat conducting relation with said fired ceramic material and held in such position by means of plastically applied material adapted to harden without firing.

1,822,052. REFRIGERATING APPARATUS. David E. Maccabee, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Mar. 30, 1928. Serial No. 266,056. 3 Claims. (Cl. 286—11.)



1,822,052

2. In a refrigerating apparatus, a shaft passing through a wall of said apparatus, a seal comprising a flexible wall having hermetic connections with said wall and shaft, with a sliding connection in said seal, and a solid damping member comprising a flexible metallic spider in contact with said seal and said apparatus wall for preventing audible vibrations in said seal.

1,822,064. COMPRESSOR. Clarence S. Sorensen, Los Angeles, Calif. Filed June 23, 1930. Serial No. 463,134. 16 Claims. (Cl. 103—162.)

3. A mechanism of the character described including, a housing, two elements, one a stationary element carried by the housing, the other a rotatable cylinder block in the housing and rotatably mounted on the stationary element, pistons mounted for reciprocation in the cylinders of the cylinder block, means for causing reciprocation of the pistons upon rotation of the cylinder block, the stationary element having spaced ports, one an inlet port, the other an outlet port, the cylinder block having ports communicating with the inner ends of the cylinders and means for controlling the passage of fluid through the ports of the cylinder block including, a valve ring engaging the stationary element and slidably connected with the cylinder block to rotate therewith, and means holding the ring in engagement with the stationary element, the valve ring having openings communicating with the ports of the cylinder block and adapted to register with the inlet port during the out strokes of the pistons, and adapted to register with the outlet port during the in strokes of the pistons.

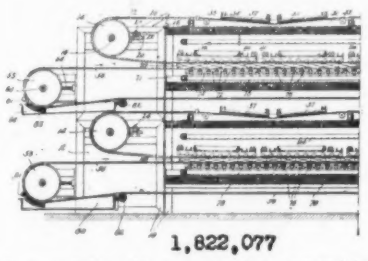
1,822,067. REFRIGERATING APPARATUS. Otto M. Summers, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Mar. 30, 1928. Serial No. 266,077. 3 Claims. (Cl. 286—11.)

1. A seal for a compressor having an apertured wall, a shaft passing through the aperture in the wall, a seal for said shaft having hermetic connections with said shaft and wall, one of said connections being a sliding connection, wherein there are relatively moving sealing faces, a spring surrounding said shaft urging said sealing faces together, and a single sleeve interposed between said shaft and spring, a contact with the inner surface of said spring and extending throughout the length of said spring.

1,822,068. REFRIGERATING APPARATUS. Otto M. Summers, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Mar. 28, 1929. Serial No. 350,735. 8 Claims. (Cl. 257—36.)

1. A substantially spiral pancake condenser for refrigerating apparatus having a single fin between certain convolutions of said spiral.

1,822,077. REFRIGERATING APPARATUS. Clarence Birdseye, Gloucester, Mass., assignor, by mesne assignments, to Frosted Foods Co., Inc., Dover, Del., a Corporation of Delaware. Filed Feb. 6, 1929. Serial No. 337,858. 39 Claims. (Cl. 62—114.)



1,822,077

1. A refrigerating apparatus comprising separate feeding means for presenting different articles to be refrigerated in different refrigerated zones, and a closed continuously operating system of circulation for delivering liquid cooling medium to all of said refrigerated zones.

1,822,089. REFRIGERATING APPARATUS. Bicknell Hall, Gloucester, Mass., assignor by mesne assignments, to Frosted Foods Co., Inc., Dover, Del., a Corporation of Delaware. Filed Aug. 5, 1929. Serial No. 383,710. 20 Claims. (Cl. 62—114.)

1. A refrigerating apparatus comprising a stationary heat-conductive plate, and members disposed on either side of the stationary plate and movable toward the latter to position articles to be refrigerated against its opposite faces.

1,822,109. METHOD OF AND APPARATUS FOR PRODUCING REFRIGERATION. Rudolph S. Nelson, Rockford, Ill., assignor to The Hoover Co., North Canton, Ohio, a Corporation of Ohio. Filed May 24, 1930. Serial No. 455,211. 17 Claims. (Cl. 62—119.5.)

1. Refrigerating apparatus adapted to produce cooling effect by the evaporation of ammonia and propane including an evaporator in which said ammonia and propane may simultaneously evaporate, an absorber in which the ammonia may be absorbed by an absorption liquid, means for cooling the lower portion of the absorber and means for heating the upper portion of the absorber to vaporize liquid propane therein.

1,822,121. REFRIGERATING APPARATUS. James J. Barry, Halifax, Nova Scotia, assignor to Frosted Foods Co., Inc., Dover, Del., a Corporation of Delaware. Filed Aug. 12, 1929. Serial No. 385,385. 15 Claims. (Cl. 62—114.)

1. Apparatus for freezing food products, comprising a stationary hollow heat conductive plate for supporting the product to be frozen, brine circulating connections for said plate, a cooperating hollow heat conductive plate movably mounted above and in vertical alignment with said first plate, a brine circulating system operatively connected to said second plate in all positions thereof, means for moving said second plate vertically with relation to said first plate to accommodate and compress between said plates products of varied thicknesses, and means, such as counterweights connected to said plate at symmetrically disposed points for regulating the pressure exerted by said

(Continued on Page 7, Column 1)

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IN FIELD OF ELECTRICAL REFRIGERATION

(Continued from Page 6, Column 5)

second plate on the product engaged between the two plates.

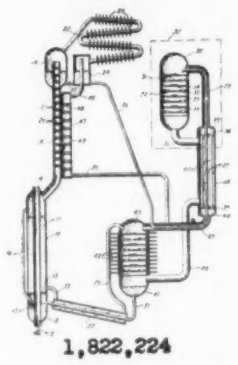
1,822,123. REFRIGERATING APPARATUS. Clarence Birdseye and Bicknell Hall, Gloucester, Mass., assignors, by mesne assignments, to Frosted Foods Co., Inc., Dover, Del., a Corporation of Delaware. Filed July 1, 1929. Serial No. 375,046. 5 Claims. (Cl. 62—114.)

1. A refrigerating apparatus comprising a stationary heat-conductive plate, a similar plate disposed in opposition thereto, means for moving said latter plate toward or from the stationary plate, a series of spaced interposed plates all suspended from said movable plate and movable simultaneously therewith to engage interposed products by gravity, and means for supplying cooling medium to said plates.

1,822,124. REFRIGERATING APPARATUS. Clarence Birdseye, Gloucester, Mass., assignor to Frosted Foods Co., Inc., Dover, Del., a Corporation of Delaware. Original application filed Feb. 6, 1929, Serial No. 337,858. Divided and this application filed Dec. 31, 1929. Serial No. 417,694. 14 Claims. (Cl. 62—114.)

1. In a refrigerating apparatus, a conveyor band, means for distributing a temperature-regulating fluid on said band and tabs connected to said band for directing said fluid away from the central portion thereof.

1,822,224. REFRIGERATION. Donald Branch Knight, Brooklyn, N. Y., assignor to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed Jan. 9, 1930. Serial No. 419,486. 30 Claims. (Cl. 62—119.5.)



1,822,224

1. That improvement in the art of refrigeration by the aid of a system containing a refrigerant fluid and an additional fluid for equalizing pressure which comprises storing an excess of said additional fluid under normal operating conditions and circulating the stored additional fluid in the system when the pressure in the system increases.

1,822,250. REFRIGERATION. Robert Seth Taylor, New York, N. Y., assignor to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed July 23, 1928. Serial No. 294,816. 17 Claims. (Cl. 62—119.5.)

1. In a water cooler refrigerated by an absorption refrigerating apparatus, a generator, a condenser, an evaporator, an absorber, means interconnecting said generator, condenser, evaporator and absorber, means to cool said condenser and absorber, a tank in heat exchange relation with said evaporator, means to supply water to said tank at a reduced pressure and means to supply water to said cooling means at the same reduced pressure.

1,822,303. REVIVIFYING ADSORBENT MATERIALS. Ernest B. Miller, Baltimore, Md., assignor to The Silica Gel Corp., Baltimore, Md., a Corporation of Maryland. Filed June 7, 1922. Serial No. 566,664. 22 Claims. (Cl. 252—2.)

2. The method of reactivating a solid adsorbent consisting in exteriorly heating it in the presence of a non-oxidizing gas and thereafter in the presence of an oxidizing gas.

1,822,305. REFRIGERATING SYSTEM FOR CARS. Charles A. Moore, Edina, Minn. Filed April 24, 1929. Serial No. 357,969. 11 Claims. (Cl. 62—19.)

1. In combination, a structure providing a chamber for lading and a compartment adjacent thereto, the chamber being in communication at its upper portion with the upper portion of the compartment and at its lower portion with the lower portion of said compartment, a circulatory system consisting of a number of pipes arranged to convey a refrigerating liquid from the upper portion of the compartment to the lower portion thereof, thence along the bottom of said chamber and back and, thence upwardly, returning to the upper portion of said compartment, a medium in the compartment for refrigerating the air therein and the liquid within said pipes, and two upright ducts within said compartment, one an ingress duct communicating at its upper end with outer atmosphere and at its lower end with the lower portion of said compartment, the other, an egress duct communicating at its upper end with the upper portion of said compartment and at its lower end with the outer atmosphere.

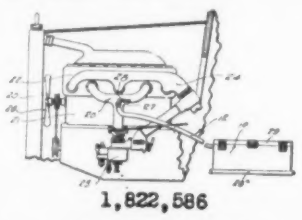
1,822,534. LIQUID COOLER. Hans Olof Lindgren, Stockholm, Sweden, assignor to The De Laval Separator Co., New York, N. Y., a Corporation of New Jersey. Filed Nov. 14, 1928. Serial No. 319,411, and in Sweden, Nov. 30, 1927. 1 Claim. (Cl. 259—75.)

The combination, with a vessel adapted to contain liquid to be cooled and to be immersed in the cooling liquid, of a motor and driving connections between the motor and said vessel, said driving connections including an element and means by which a variable speed movement in one direction is imparted thereto and a flexible and elastic device between said driving connections and said vessel which constrains said vessel to have a variable speed movement different from that of said element.

1,822,583. REFRIGERATING APPARATUS. Robert R. Candor, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Feb. 27, 1930. Serial No. 431,760. 5 Claims. (Cl. 62—141.)

1. A liquid cooling apparatus comprising a metal walled liquid container, a liquid supply means for said container pulley diameter while in motion and used in combination in thermal contact with said wall and connected to said container at its upper portion, means forming a refrigerant passage spirally arranged around said container in-thermal contact with said wall and interposed between loops of said liquid supply means, and means for withdrawing liquid from said container at its lower portion.

1,822,586. REFRIGERATING DEVICE. Noble Eckles, Los Angeles, Calif., assignor to one-half to John W. Bour, Los Angeles, Calif. Filed April 19, 1930. Serial No. 445,642. 18 Claims. (Cl. 62—152.)



1,822,586

1. A refrigerating device adapted to be operated by an internal combustion engine having an intake manifold including, a suction line communicating with the intake manifold, a chamber in communication with the suction line, and means for discharging an atomized volatile liquid into the chamber.

1,822,626. METHOD OF AND APPARATUS FOR STORAGE AND SHIPMENT OF SOLID CARBON DIOXIDE. Charles L. Jones, Pittsburgh, Pa., and John D. Small, Douglaston, N. Y., assignors, by mesne assignments, to Dryice Equipment Corp. of America, New York, N. Y., a Corporation of Delaware. Filed April 6, 1929. Serial No. 353,237. 11 Claims. (Cl. 62—91.5.)

1. A car, truck or the like, having side opening doors and means adapting it for storage of solid carbon dioxide, said means including transverse bulkheads dividing the car into a transverse passage, extending between the doors and storage spaces in the ends of the car, each constituting a bin accessible through the top only and a gas-tight lining for each bin whereby carbon dioxide gas therein, is substantially prevented from escape except through the open top thereof.

1,822,636. INSULATING MATERIAL. Henry F. Winkelmann, Nebraska City, Nebr. Filed March 5, 1930. Serial No. 433,396. 2 Claims. (Cl. 154—44.)

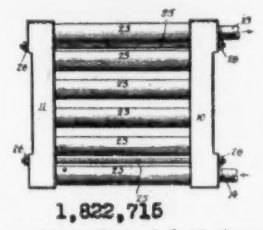
1. A material of the class described including layers of asphalt paper spaced by an adhering mixture consisting of asphalt, vegetable fibre, paraffine oil, and flaked phlog pite.

1,822,698. BAFFLE PACKING FOR HEAT EXCHANGERS. Harlan W. How, Warren, Pa., assignor to Struthers-Wells Titusville Corp., Warren, Pa., a Corporation of Maryland. Filed Sept. 4, 1930. Serial No. 479,659. 6 Claims. (Cl. 257—239.)

1. A heat exchanger comprising a shell having a fluid inlet and a fluid outlet, a plurality of sets of tubes arranged in said shell, tube sheets mounted at opposite ends of said shell and connected with opposite ends of said tubes, a baffle arranged between the sets of tubes and having longitudinal edges arranged adjacent to said shell, and packing means interposed between the longitudinal edges of said baffle and said shell and comprising a packing strip having a web engaging said shell and flanges on opposite longitudinal edges of said web which engage opposite sides of the longitudinal edge portion of said baffle and spring means for holding said packing strip yieldingly in engagement with said shell.

1,822,715. COIL FOR REFRIGERATING AND OTHER APPARATUS. Louis N. Udell, Boston, Mass. Filed March 5, 1928. Serial No. 259,337. 2 Claims. (Cl. 257—255.)

1. A coil of the character described, comprising opposed vertical hollow headers formed with horizontally opposed holes in their respective inner faces, parallel pipes extending between said headers and at their ends registering with said holes, means providing fluid-tight joints between said pipes and headers, integral transverse partitions in said headers dividing the latter into flow chambers connecting the ends of adjacent pipes, said partitions being so located as



1,822,715

to cause a zigzag flow of fluid through adjacent pipes in opposite directions, integral hollow bosses extending entirely across the flow passages of the headers, the bosses in one of said headers being formed as integral parts of partitions of said header, and tie-rods extending between said headers and through said hollow bosses; one of said headers being formed with lower and upper lateral openings registering with the lower and upper pipes of the coil for connection of inflow and outflow pipes thereto.

1,822,718. FREEZING APPARATUS. Michel P. Vucassovich, Gloucester, Mass. Filed May 27, 1930. Serial No. 456,149. 3 Claims. (Cl. 62—104.)

1. In freezing apparatus comprising a horizontal container having a cover and internally partitioned to form an elongated runway, including major portions located side by side, and connecting neck portions, said runway having a loading end and a discharge end, and adapted to conduct from end to end a moving refrigerating liquid and buoyant receptacles floating therein, and means for maintaining the moving liquid at a predetermined level; a longitudinally extending track located in the runway above the bottom thereof and below the predetermined liquid level, in position to support a non-floating receptacle, in the path of a floating receptacle so that a non-floating receptacle may be propelled to the discharge end by a following floating receptacle.

1,822,850. REFRIGERATING APPARATUS AND METHOD. David H. Killeffer, Yonkers, N. Y., assignor to Dryice Equipment Corp., New York, N. Y., a Corporation of Delaware. Filed April 13, 1929. Serial No. 354,765. 16 Claims. (Cl. 62—91.5.)

1. The method of controlling distribution of refrigerant effects in a container of products refrigerated by solid carbon dioxide, which method includes absorbing heat by solid carbon dioxide to evaporate the same adjacent one portion of said products, confining said gas and forcing its flow to and discharge adjacent an opposite region of said body to protect three sides thereof, and similarly protecting the other three sides by similarly absorbing heat, confining, guiding and discharging the resultant gas in similar relation to the other three sides.

1,822,851. REFRIGERATING APPARATUS AND METHOD. Charles L. Jones, Pelham, N. Y., assignor to Dryice Equipment Corp., New York, N. Y., a Corporation of Delaware. Filed March 25, 1930. Serial No. 438,704. 26 Claims. (Cl. 62—91.5.)

1. A double walled refrigerator chamber and a container for an intensely cold refrigerant, arranged for circulating cold atmosphere from the refrigerant container between said walls, and circulating impeding baffles arranged substantially transversely to the direction of travel of the cold atmosphere and between said walls.

(Concluded in Next Issue)

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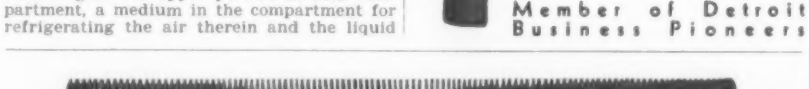

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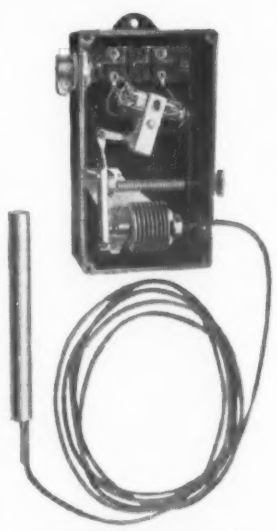

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